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TX/MAM User Manual

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1. Grass Valley Product Support

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2. About his document

This document describes the TX/MAM application version 2.4. Information in this manual may at some points differ from your TX/MAM application due to differences in version.

This manual starts with an introduction to TX/MAM concepts. Then the TX/MAM Interface is explained. Next, this manual is divided in the following sections:

- Configuring TX/MAM
- Asset Management with TX/MAM
- Channel Management
- User Management for Channels
- Flag Configuration
- Quick Reference

The K2 Edge and TX/MAM ingest workflows are explained in the appendix.

Configuration of the TX/MAM servers and Storage server is described in the Commissioning Manual.

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3. Installation

3.1 Requirements

The TX/MAM web interface requires a networked Windows PC with a Mozilla Firefox web browser and the TX/MAM Player installed.

3.2 Installation

The TX/MAM Player is included in the Cobalt Installer and installed when installing Cobalt.

4. Credentials

The default credentials for the TX/MAM applications are: User: sysdba Password: masterkey

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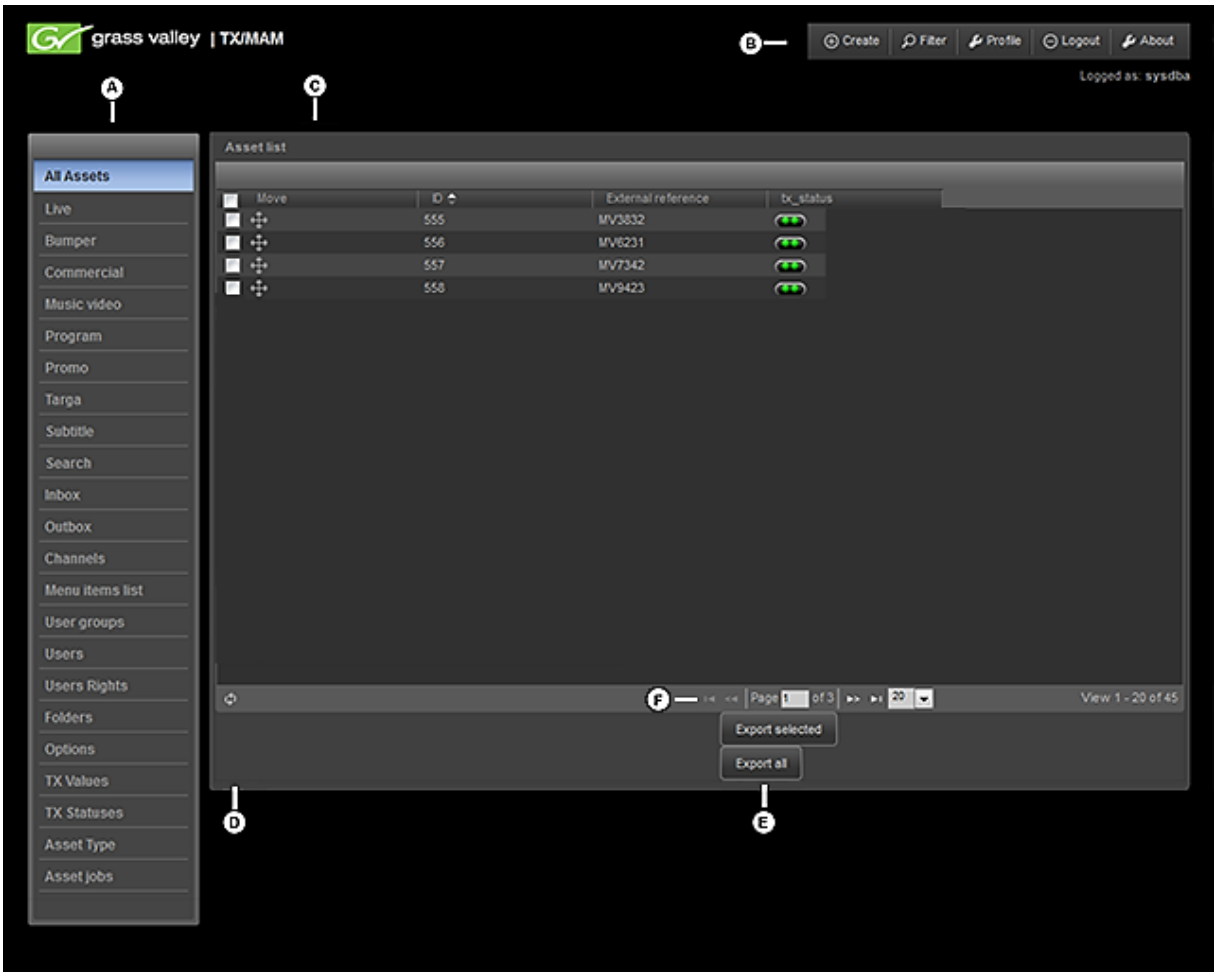
5. The TX/MAM Interface



Example TX/MAM Interface (including superuser and administrator tabs).

A	Use the left hand menu to select the information that you want to display in the main window (C). While a number of items are fixed, this menu can be customized as described in paragraph 8.4.
B	The toolbar in the top right corner shows a number of basic options such as ‘Create’, ‘Search’ and ‘Profile’. Options available differ depending on the contents of the main window. Click the ‘About’ option to view the TX/MAM version and release notes.
C	The main window shows the information as selected in the left hand menu.
D	The refresh option.
E	Export Assets options.
F	Page options.

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The TX/MAM interface is described in more detail in the *Quick Reference*.

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6. TX/MAM Introduction

TX/MAM asset management functionality includes:

- Create and manage Assets.
- Trim, soft part segments.
- Low-res proxy quality control.
- Edit metadata.
- Asset jobs.
- Channel Management.
- User Management.
- Manage Flags.
- Automatic file ingest.

6.1 Assets

Asset info is created in TX/MAM, or imported using the Schedule or Asset Importer. Until a file has been ingested, Assets are called empty Assets. Asset info is stored in the TX/MAM database.
Files (Essences) are ingested via Inboxes on the Storage Server.

<table>
<tr><th colspan="2">ASSET</th></tr>
<tr><th>Asset info
[TX/MAM database]</th><th>Essence
[Storage]</th></tr>
<tr><td>Metadata and info that describes the Asset.
• Metadata
Fixed metadata such as file type, external reference, duration and customizable metadata, for instance artist or episode.
• Jobs and statuses
Assets can have configurable jobs and statuses, which are visible in TX/MAM. Jobs can be executed automatically and/or manually.
• Workflow
Workflow steps can be defined using the status of an Asset or Asset Job.</td><td>Essence(s) are the media files that belong to the Asset.</td></tr>
<tr><td colspan="2">Mostly, Assets and Essences are linked via the Asset’s External reference. Example:</td></tr>
<tr><td>External reference</td><td>Filename</td></tr>
<tr><td>abc123</td><td>abc123.mpg</td></tr>
</table>

[See chapter 14 for an explanation of the K2 Edge and ingest workflow.]

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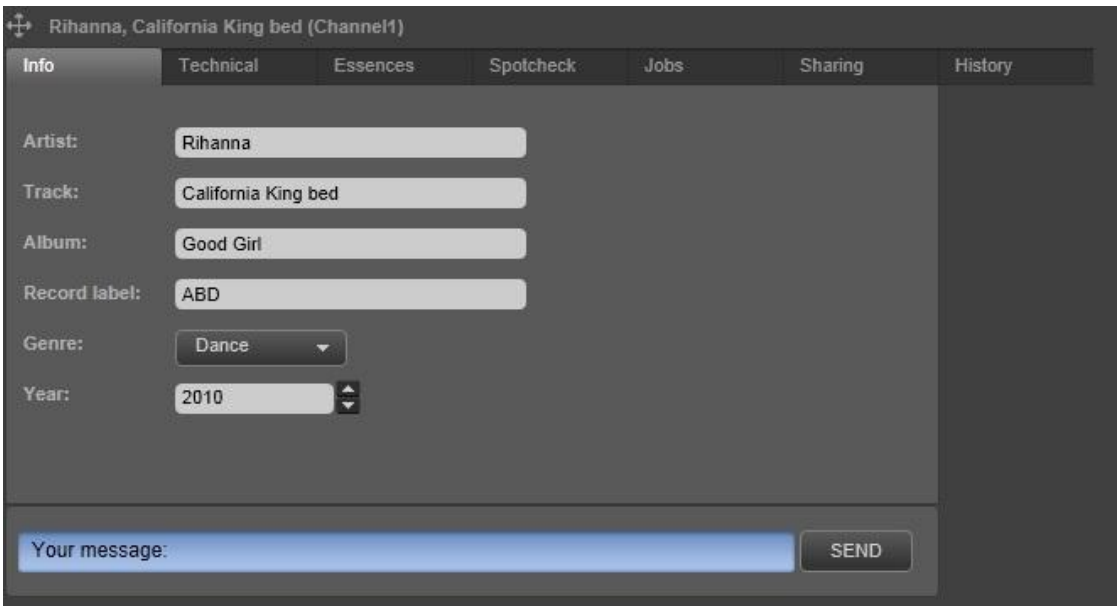
When a Schedule is imported and Assets in the Schedule do not yet exist, empty Assets are created. You can also create empty Assets (Assets for which the file has not yet been ingested in TX/MAM). Note that empty Assets can be scheduled, but cannot be played out. Before playout, the Essence must be available.

In TX/MAM, Assets are described on several tabs:

- Configurable metadata tab pages. In the default setup:
    - **Info**: Asset info such as *Artist* and *Track*.
    - **Technical**: Asset info such as *Media Type* and *Aspect ratio*.
    - **Images**: shows the graphic (only for TGA-Assets).
- **Essences**: the file(s) linked to an Asset and their status (only for video Assets).
- **Spotcheck**: file quality check and segmenting (only for video Assets).
- **Jobs**: the Jobs linked to an Asset and their status.
- **Sharing**: Assets are linked to a User Group, *Channel1* in the example below. This group has access to the Asset. To give other Groups access, Assets can be shared.
- **History**: lists all actions performed for this Asset.

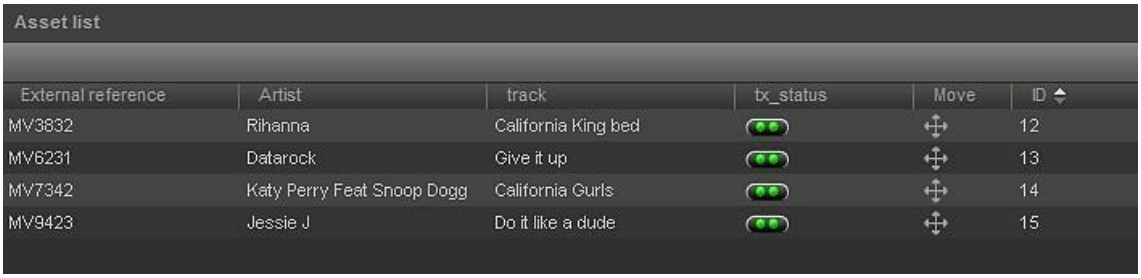


Example Asset (video) in TX/MAM.

This chapter explains TX/MAM basic concepts using an example Asset, a music video *California King Bed*.

6.2 Metadata

Metadata such as *External reference*, *Artist* and *Track* describes the Asset. Asset info is displayed on the Asset's *Info* and *Technical* tabs, and is also shown in the columns in the Assets list. Custom metadata tabs can be defined.

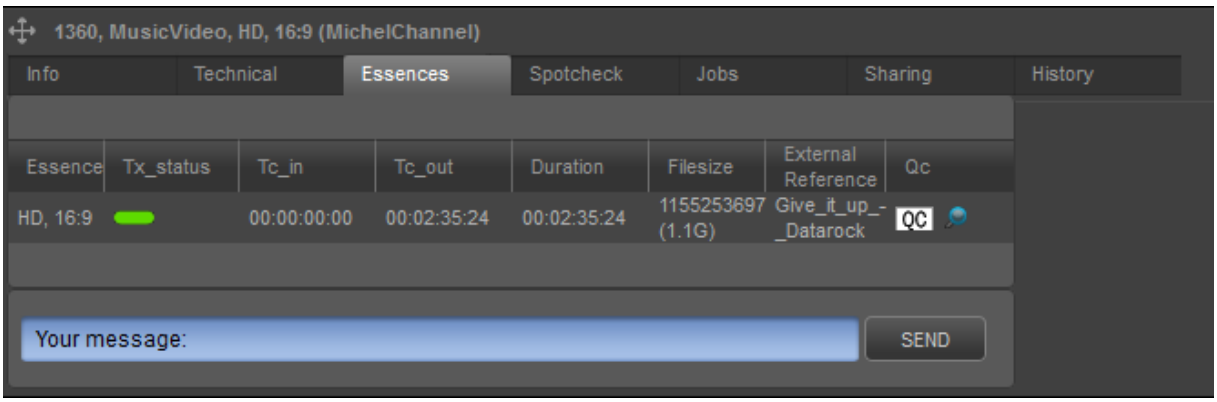


Example Assets list with Asset info (External reference, Artist, track, ID …)

Asset info can be used for scheduling (for example schedule clips based on *Genre*) and for playout (for example play out *Artist* and *Track* info with a clip).

6.3 Essences

The media file(s) linked to an Asset are named Essences. The *Tx-Status* column on the Essences tab shows the status of file ingest.



Example Essences tab for a Music Video.

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6.4 Spotcheck and segmenting

TX/MAM's spotcheck functionality lets you verify the Essences' quality. You can also define segments- using *Tc-in* and *Tc-out* (time code in and out) - when only part of a file is used.

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Segments can be scheduled (drag into POC), but are not listed in the Assets list.

Example spotcheck.

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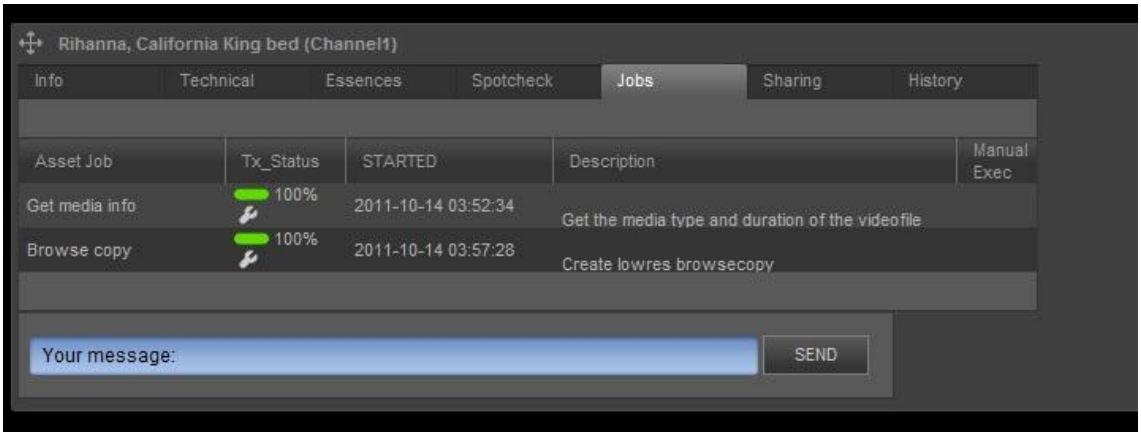
6.5 Asset Jobs

Jobs and procedures can be defined and linked to Asset Types and will then automatically be executed for all Assets of that type. Example jobs:

- A job *Browse copy* to create a low resolution copy of files. The status *Browse created* is displayed in the Asset list's *tx_status* column.
- A job *Get media info*, used to retrieve info about file duration and type. This info can then be displayed in the Asset list.

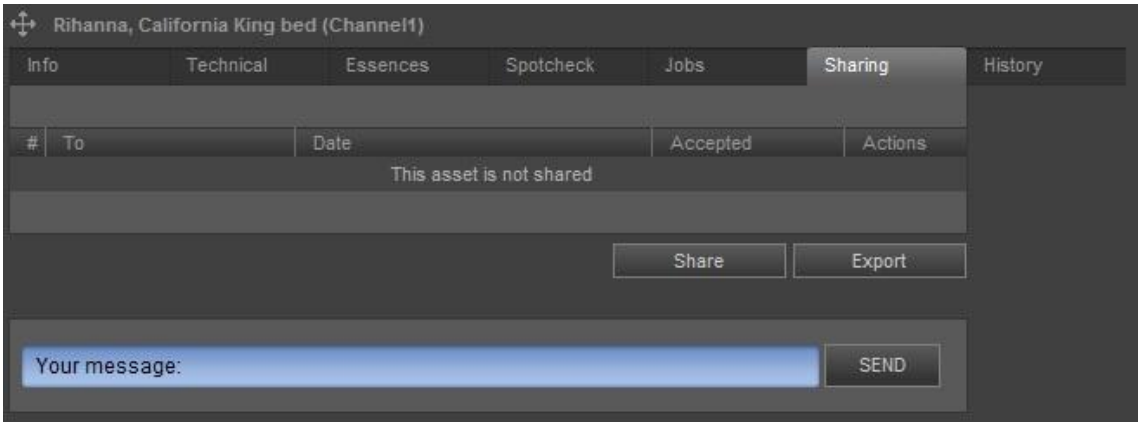
The Jobs tab shows the status of Jobs for an Asset. You can change this status or in some cases manually execute Jobs.



Example Jobs tab.

6.6 Sharing and Exporting Assets

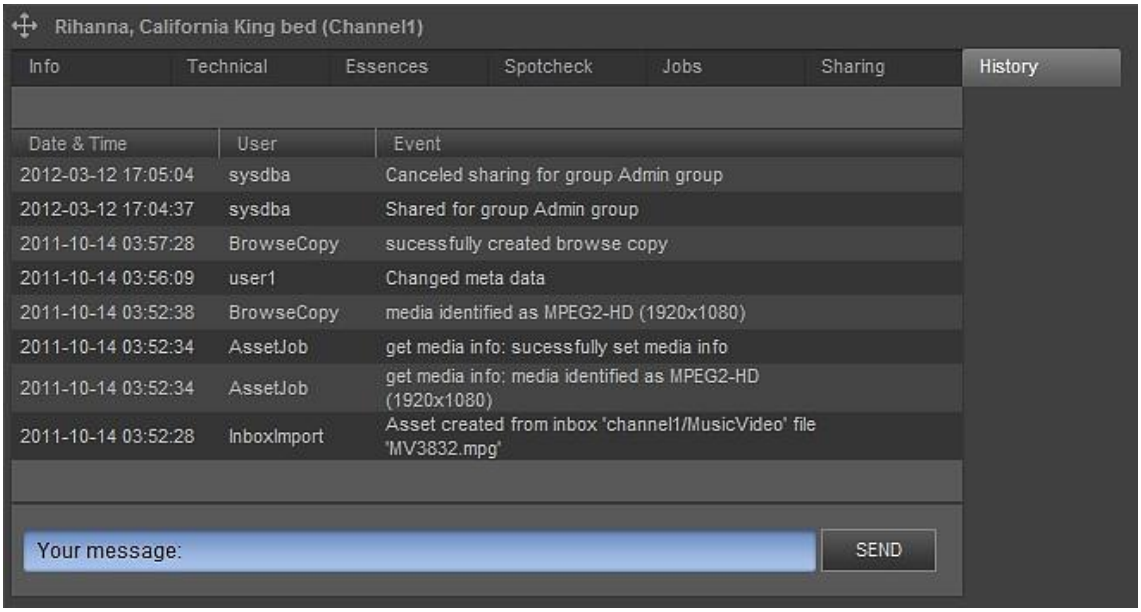
Assets are linked to a User Group. Only this User Group has access to the Asset. To enable access for other user Groups, the Asset can be shared. Assets can also be exported to predefined Folders.



Example Sharing tab; the Asset is not shared with other User Groups.'*Channel1'* in the Asset's title *refers to the User Group that has access to this Asset.*

6.7 History

The Asset's History lists the Asset Jobs or user actions performed for the Asset.



Example History tab.

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6.8 Asset Types

Asset Types define groups of Assets with the same file type and metadata definition. Example file types are: AVF (for video files), TGA (for graphics) and WAV.

Metadata fields such as *External reference* and *Duration* are fixed for all Asset Types. Custom metadata can be configured per Asset Type.
Below you find the custom metadata definition for Asset Type *Music Videos*. The name attribute defines the custom metadata fields for Assets of this type, such as *Artist*, *Track* and *Album*.

```
<XML>
<WINDOW width="535" height="220">
  <PAGE name="Info">
    <LABEL x="10" y="27" height="16" width="80">Artist:</LABEL>
    <TEXTFIELD name="artist" x="100" y="25" height="20" width="200" search="true"></TEXTFIELD>
    <LABEL x="10" y="57" height="16" width="80">Track:</LABEL>
    <TEXTFIELD name="track" x="100" y="55" height="20" width="200" search="true"></TEXTFIELD>
    <LABEL x="10" y="87" height="16" width="80">Album:</LABEL>
    <TEXTFIELD name="album" x="100" y="85" height="20" width="200" search="true"></TEXTFIELD>
    <LABEL x="10" y="117" height="16" width="80">Record label:</LABEL>
    <TEXTFIELD name="record" x="100" y="115" height="20" width="200"
search="true"></TEXTFIELD>
    <LABEL x="10" y="147" height="16" width="80">Genre:</LABEL>
    <COMBOBOX name="genre" x="100" y="145" height="20" width="100"
search="true">None#13Disco#13Dance#13Launce#13Rap</COMBOBOX>
    <LABEL x="10" y="177" height="20" width="80">Year:</LABEL>
    <SPINEDIT name="year" x="100" y="175" height="20" width="90" search="true">2010</SPINEDIT>
  </PAGE>
  <PAGE name="Technical">
    <LABEL x="10" y="27" height="16" width="80">Media type:</LABEL>
    <COMBOBOX name="media_type" x="100" y="25" height="20" width="120" search="true">#13MPEG2-
SD#13MPEG2-HD#13MXF-SD#13MXF-HD</COMBOBOX>
    <LABEL x="10" y="57" height="16" width="80">Aspect ratio:</LABEL>
    <COMBOBOX name="aspect_ratio" x="100" y="55" height="20" width="120"
search="true">#134:3#1316:9 Anamorphic#1316:9 Letterbox</COMBOBOX>
    <LABEL x="10" y="87" height="16" width="80">Loudness:</LABEL>
    <LABEL x="20" y="107" height="16" width="100">Integrated:</LABEL>
    <TEXTFIELD name="integrated_loudness" x="120" y="105" height="20" width="45"
search="true"></TEXTFIELD>
    <LABEL x="20" y="127" height="16" width="100">Max Momentary:</LABEL>
    <TEXTFIELD name="momentary_loudness" x="120" y="125" height="20" width="45"
search="true"></TEXTFIELD>
    <LABEL x="20" y="147" height="16" width="100">Max Short term:</LABEL>
    <TEXTFIELD name="shortterm_loudness" x="120" y="145" height="20" width="45"
search="true"></TEXTFIELD>
    <LABEL x="20" y="167" height="16" width="100">Range:</LABEL>
    <TEXTFIELD name="loudness_range" x="120" y="165" height="20" width="45"
search="true"></TEXTFIELD>
    <LABEL x="10" y="197" height="16" width="100">Parental guide:</LABEL>
    <COMBOBOX name="parental_guide_age" x="100" y="195" width="51" height="20"
search="true">#13AL#136#139#1312#1316#1318</COMBOBOX>
    <COMBOBOX name="parental_guide_icon1" x="190" y="195" width="100" height="20"
search="true">#13fear#13sex#13violence#13drugs#13language#13discrimination</COMBOBOX>
    <COMBOBOX name="parental_guide_icon2" x="300" y="195" width="100" height="20"
search="true">#13fear#13sex#13violence#13drugs#13language#13discrimination</COMBOBOX>
    <COMBOBOX name="parental_guide_icon3" x="410" y="195" width="100" height="20"
search="true">#13fear#13sex#13violence#13drugs#13language#13discrimination</COMBOBOX>
  </PAGE>
</WINDOW>
</XML>
```

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7. Starting the TX/MAM Browser

- Open a Firefox web browser on your workstation.
- Enter the K2 TX/MAM servers' virtual IP-address and press [Enter].
- Log in using the TX/MAM credentials [chapter 4].

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8. Configuring TX/MAM

TX/MAM configuration options include:

- Define Users and User groups to manage access and authorization levels for Folders, Asset Types and Assets.
- Modify the TX/MAM menu to specify customized Asset lists.
- Define Folders for automatic ingest, Asset sharing and export.
- Link Jobs to Asset Types.

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You need superuser or administrator rights to configure TX/MAM.

8.1 Defining TX/MAM Users and User groups

8.1.1 Introduction

TX/MAM lets you define Users and User groups to manage access and authorization levels for Folders, Asset types and Assets.

- Example Users: Operator, Supervisor and Administrator.
- Example User groups (for a service provider): Customer1 and Customer2.

The table below shows different authorization levels that can be set for Users and User groups.

User group	• allowed Asset types • allowed Assets (defined when creating an Asset as a property of the Asset Assets can be shared with other groups) • allowed Folders (defined when creating a Folder) • assign administrator and superuser rights • set rights for TX/Dashboard
User	• allowed applications (Cobalt, TX/MAM) • authorization levels (create, read, delete, …) • allowed tabs (Metadata, Essences, …) • allowed menu items (Inbox and Outbox)

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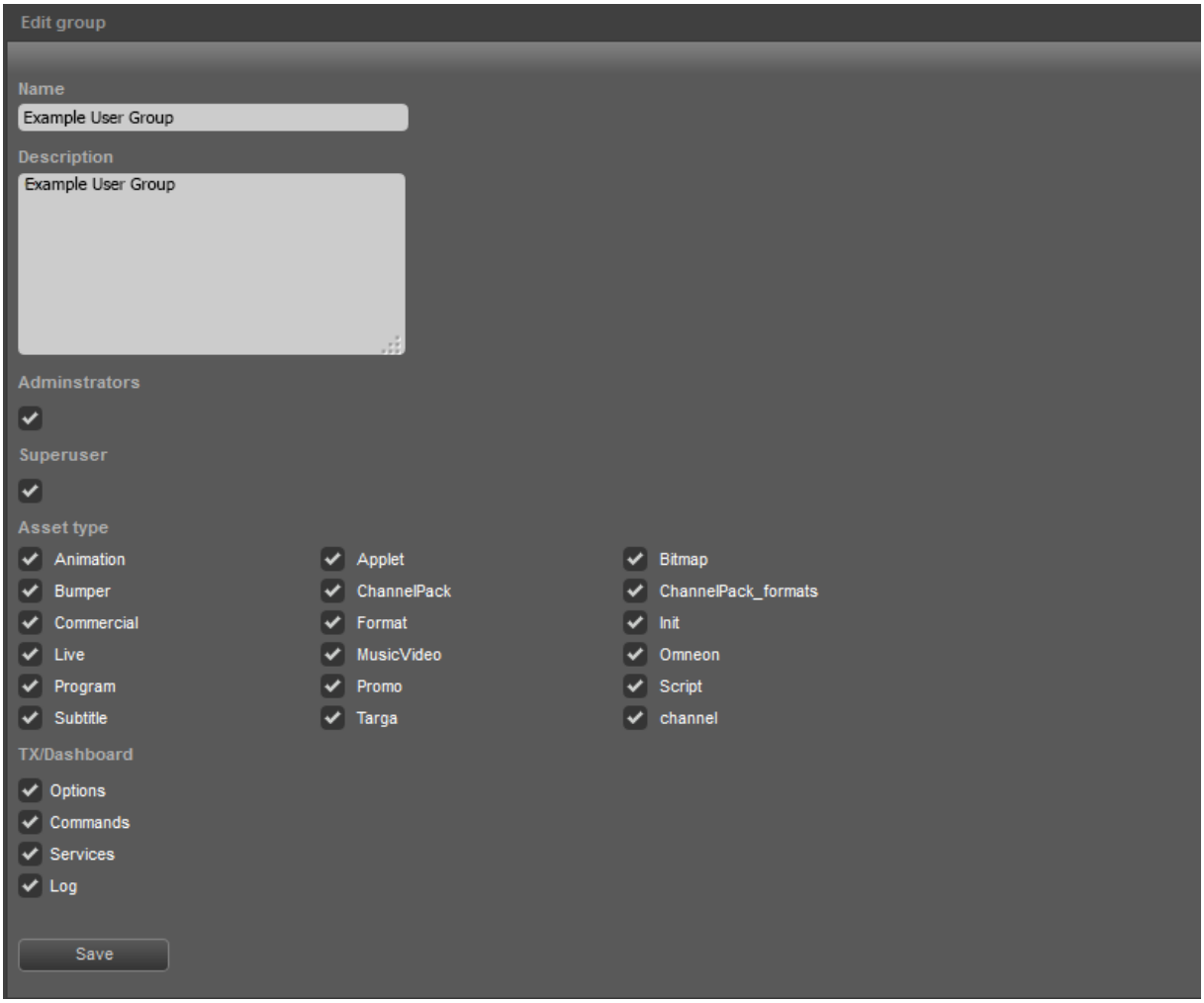
8.1.2 Administrator and superuser

Administrator and superuser rights can be assigned to Groups.

Administrator and Superuser	Read/write rights for: • Menu Item List • User groups • Users • Categories: not used
Superuser	Read/write rights for: • Folders • Options • TX-statuses and values • Asset Types • Asset Jobs

8.1.3 Creating or modifying a User Group



Example User Group.

- Click the **User groups** menu item.
- Click the **Add** button to add a User group or select the User group you want to edit.
- Specify a **Name** for the group.
- Add a short description of the Group in the **Description** field.
- Activate the **Administrators** option if you want to assign administrator rights to the group.
- Activate the **Superuser** option if you want to assign superuser rights to the group.
- Select the **Asset type**(s) this group is allowed to work with.
- Click **Save** to save changes, **Cancel** to discard.

8.1.4 Deleting a User group

- Click the **User groups** menu item.
- Select the User group you want to delete.
- The **Edit group** window opens, now click the **Delete** button. Click **OK** to delete the group, **Cancel** to discard.

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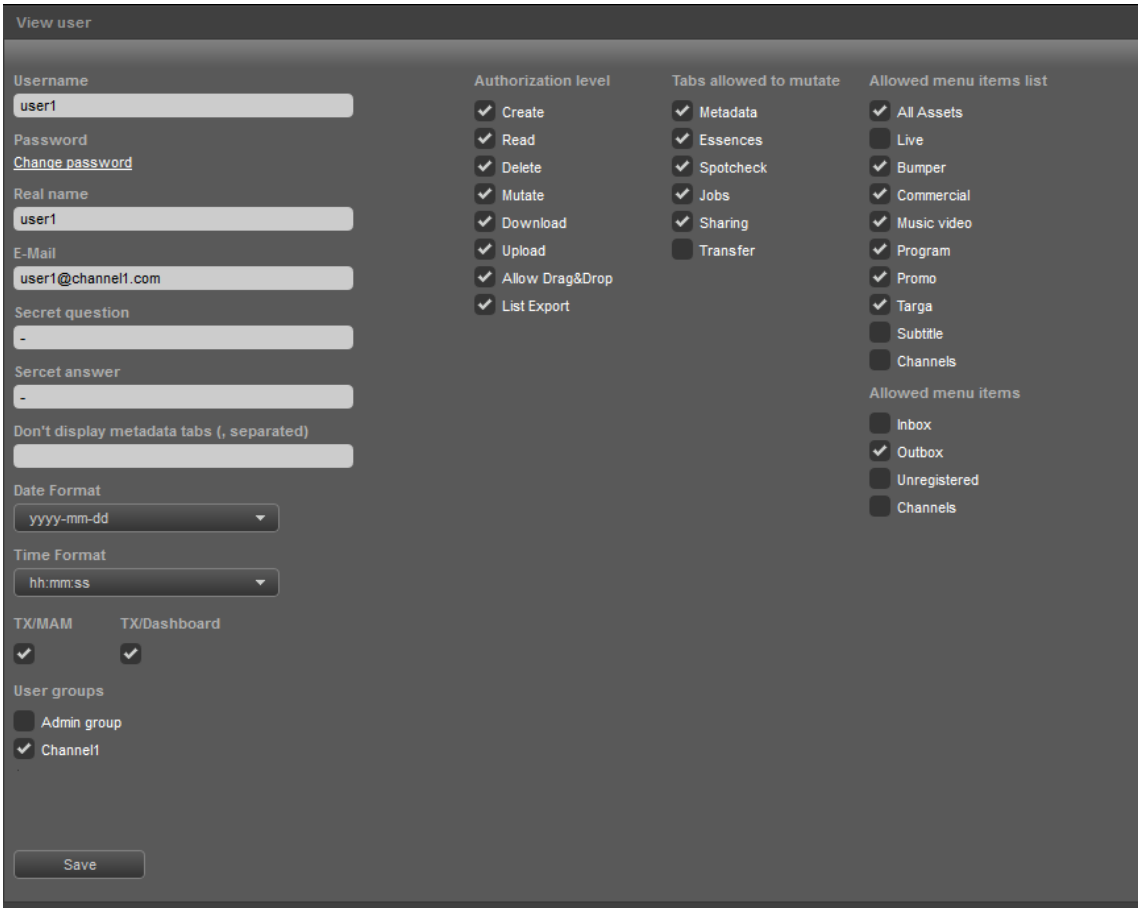
8.1.5 Creating or modifying a User



Example User.

- Click the **Users** menu item.
- Click the **Create** button to add a User, or select a User from the list to edit..
- Specify a **Username**.
- Specify a **Password**.
- Specify the user's **Real name**.
- Specify the user's **E-Mail** address.
- Specify a Secret question.
- Specify the user's **Secret answer**.
- **Don't display metadata tabs**: If applicable, specify metadata tabs this user is not allowed to see.
- You can specify a **Date** and **Time Format** for the User. The 'a' (for example hh:mm:ss **a**)stands for: AM.
- Select the applications the user will be given access to.

- Select the **User groups** the User belongs to.
- Specify **Authorization level**, **Tabs allowed to mutate** (only visible when the Authorization level > Mutate option has been activated), **Allowed menu items list** and **Allowed menu items**.
- Click **Save** to save changes, **Cancel** to discard.

8.1.6 Deleting a User

- Click the **Users** tab.
- Select the user you want to delete.
- The **View user** window opens, now click the **Delete** button.
- Click **OK** to delete the user, **Cancel** to discard.

8.1.7 Assigning superuser or administrator rights

- Create a Group with superuser or administrator rights: go to **User groups** > **Add** > define a group and select the **Administrators** or **Superuser** option.
- Click **Save**, or **Cancel** to discard.
- Add the User to the Group with superuser/administrator rights: go to **Users** > select the user > **User groups** and add the user to the group with superuser/administrator rights.

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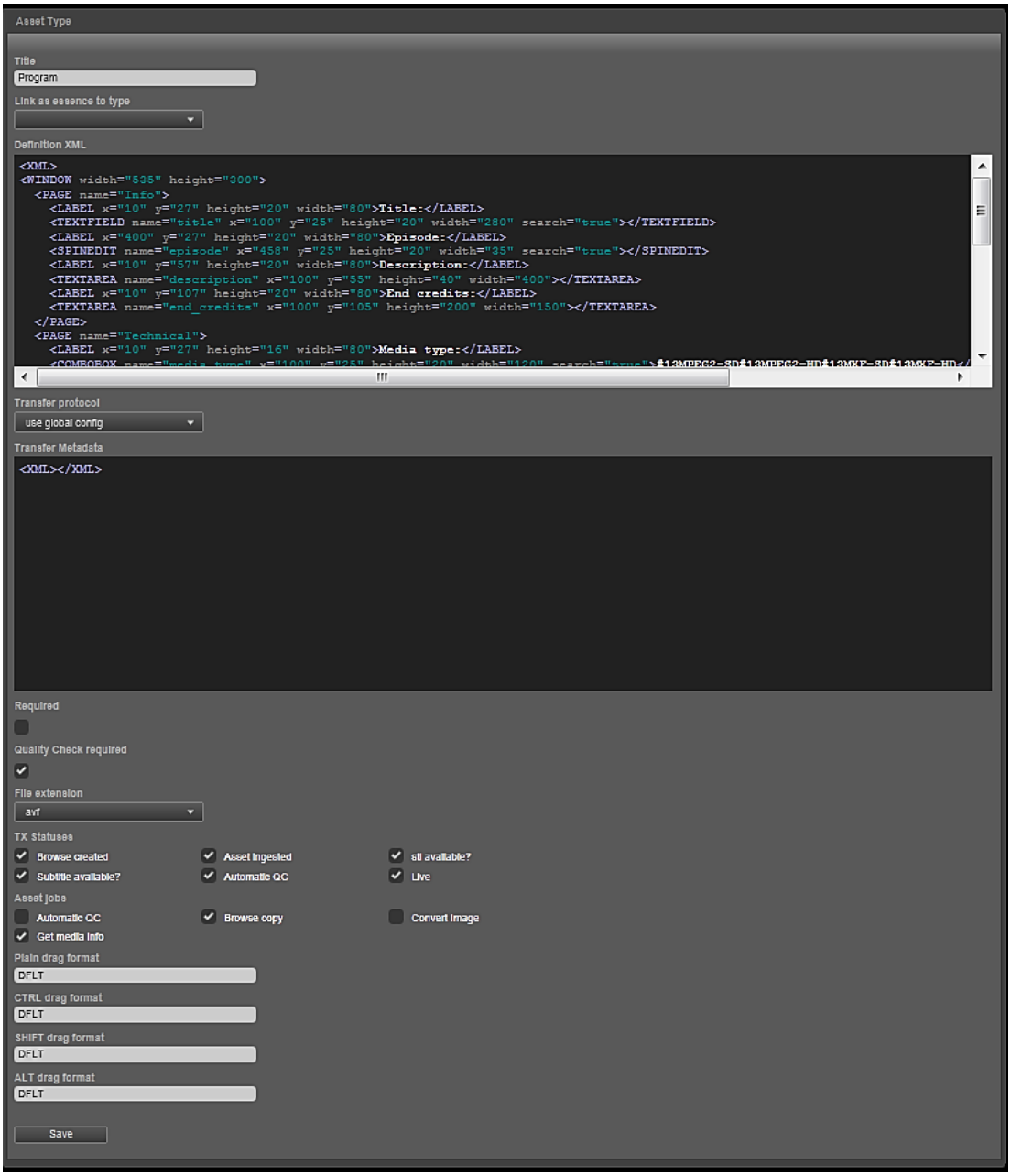
8.2 Defining Asset Types

8.2.1 Introduction

Asset Types group Assets with the same file type and metadata definition.

The metadata definition consists of a default and custom part. In addition to custom metadata fields, custom TX/MAM tabs can be added. The default tabs are Info and Technical.



Example Asset Type in TX/MAM.

8.2.2 Defining an Asset Type

To create an Asset Type:

- Select the **Asset Type** menu option and click the **Create** button.
- Specify the Asset Type name in the **Title** field.
- **Link as essence to type**: if applicable, link this Asset Type as an essence to an Asset Type.

  Note: from K2 Edge version 4.1 not used for subtitles anymore.
- **Definition XML**: to add custom metadata fields for this Asset Type, add the metadata definition here [see paragraph 8.2.3 for an explanation].
- **Transfer protocol**: Specify a transfer protocol for files of this Asset Type. Transfer settings specify amongst others the storage location and are used by the *playout_distri* process when fetching files from storage for playout.

use global config

Transfer metadata in **/system/objects/cobassets/bin/transfer_ftp.xml** (as set with the **/system/objects/cobassets/bin/set.sh** script) is used.

Leave the Transfer metadata field as is: `<XML></XML>`

FTP

Select this option if you do not want to use the global settings, but specific transfer settings for this Asset Type.

Example:

```
<XML>
<FIELD name="username">delta</FIELD>
<FIELD name="password">delta</FIELD><FIELD
name="ip">10.250.51.20</FIELD>
<FIELD name="port">21</FIELD>
<FIELD name="path">/system/ftp-mount/txmam-media/</FIELD>
</XML>
```

A warning when specifying the value for the path field in the transfer xml:
Paths that start with a slash will be interpreted as an absolute path. Be sure that when specifying an absolute path that this path is accessible by a FTP-client and the given user/password. This can be tested using the standard FTP command-line client by trying to change the directory to the desired absolute path after logging in (e.g. “cd /mydata/media”). (The standard FTP command-line client is called “ftp”.)

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LOCAL:
Files are stored on the TX/MAM server.
Leave the Transfer metadata field as is: `<XML></XML>`

The K2 Edge Smart Playout Center Commissioning and Engineering Manuals describe the Ingest process and configuration of the Storage Server in more detail.

- **Required**: not implemented yet.
- **Quality Check Required**: not implemented yet.
- Select the **File extension** for Assets of this type. This file extension will be added to files that are added to this Asset Type.
- Select the **TX Statuses** and **Asset jobs** that you want to link to this Asset Type.

  ☞

  Note that Asset jobs and TX Statuses must match.

- Specify the Format that will be linked to Events when an Asset is Plain/CTRL/SHIFT/ALT + dragged into a POC-Playlist. Use the dummy DFLT format when you do not want to link a fixed Format.

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In TX/MAM, Formats are linked to Asset Types. A dummy Format is available in the Smart Playout Center installation: DFLT. This Format can be used if you do not want to link a fixed Format to an Asset Type. Events will initially be scheduled with this dummy Format. Then Format Control can be used to apply Formats when the Playlist is activated.
Formats can also be linked to Events in the Schedule [see the Schedule Importer User Manual]. The Format defined in the Schedule will overwrite the Format linked to the Event's main Asset Type, if applicable.

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8.2.3 Customizing the Asset Type's metadata definition

The example below shows the custom metadata fields for an Asset Type:

```
<XML>
<WINDOW width="535" height="200">
  <PAGE name="Info">
    <LABEL x="10" y="27" height="20" width="80">Title:</LABEL>
    <TEXTFIELD name="title" x="100" y="25" height="20" width="200"
search="true"></TEXTFIELD>
    <LABEL x="10" y="57" height="20" width="80">Description:</LABEL>
    <TEXTAREA name="description" x="100" y="55" height="40" width="400"></TEXTAREA>
  </PAGE>
  <PAGE name="Technical">
    <LABEL x="10" y="27" height="16" width="80">Media type:</LABEL>
    <COMBOBOX name="media_type" x="100" y="25" height="20" width="120"
search="true">#13MPEG2-SD#13MPEG2-HD</COMBOBOX>
    <LABEL x="10" y="57" height="16" width="80">Aspect ratio:</LABEL>
    <COMBOBOX name="aspect_ratio" x="100" y="55" height="20" width="120"
search="true">#134:3#1316:9 Anamorphic#1316:9 Letterbox</COMBOBOX>
    <LABEL x="10" y="87" height="16" width="80">Loudness:</LABEL>
    <LABEL x="20" y="107" height="16" width="80">Momentary:</LABEL>
    <TEXTFIELD name="momentary_loudness" x="100" y="105" height="20" width="45"
search="true"></TEXTFIELD>
    <LABEL x="20" y="127" height="16" width="80">Integrated:</LABEL>
    <TEXTFIELD name="integrated_loudness" x="100" y="125" height="20" width="45"
search="true"></TEXTFIELD>
    <LABEL x="20" y="147" height="16" width="80">Range:</LABEL>
    <TEXTFIELD name="loudness_range" x="100" y="145" height="20" width="45"
search="true"></TEXTFIELD>
  </PAGE>
</WINDOW>
</XML>
```

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Following tags, controls and attributes are available:

Tags	
XML	These tags are mandatory and start and end the xml-definition. Example: `<XML> <WINDOW width="400" height="300" scrollwidth="300" scrollheight="250">controls</WINDOW> </XML>`
WINDOW	Defines the window size (mandatory). A scrollbox can be defined (optional). Example: `<WINDOW width="400" height="300" scrollwidth="300" scrollheight="250">controls</WINDOW>`
PAGE	Use to define custom tab pages. The default TX/MAM tabs are *Info* and *Technical*. Example: `<WINDOW width="400" height="300" scrollwidth="300" scrollheight="250" > <PAGE name="tab1">controls</PAGE> <PAGE name="tab2">controls</PAGE> </WINDOW>`
Controls	
CHECKBOX	Defines a checkbox. Example: `<CHECKBOX name="checkbox" x="90" y="90" height="100" width="100" search="false">label</CHECKBOX>`
COMBOBOX	Defines a combobox. Items in the definition must be separated by "#13" (see the example below). As a default, the first item is selected. Example: `<COMBOBOX name="combobox" x="90" y="155" height="20" width="62" search="true">line1#13line2#13line3#13line4</ COMBOBOX>`
DATETIMEPICKER	Defines a date or time picker depending on mode (0=date, 1=time). The format is optional and depends on the mode used (date or time). Default modes are "yyyy-MM-dd" for dates and "HH:mm:ss" for time. Example: `<DATETIMEPICKER name="datetimepicker" x="90" y="70" height="20" width="50" search="false"format="hh:mm:ss">1</DATETIMEPICKER>`

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LABEL	Defines a text label. Example: `<LABEL name="label" x="71" y="2" height="20" width="40">label</LABEL>`
SPINEDIT	Defines a counter spin. Example: `<SPINEDIT name="spinedit" x="90" y="50" height="20" width="62" search="false"></SPINEDIT>`
TEXTAREA	Defines a text input box. `Max` can be used to limit the amount of characters that can be used. Example: `<TEXTAREA name="textarea" x="90" y="0" height="100" width="255" search="false" max="20"></TEXTAREA>`
TEXTFIELD	Text input field (single line). `Max` can be used to limit the amount of characters that can be used. Example: `<TEXTFIELD name="textfield" x="90" y="0" height="20" width="40" search="true" max="20"></TEXTFIELD>`
TIMECODE	Timecode is a specific time format hh:mm:ss:ff, hours, minutes, seconds and frames. Example: `<TIMECODE name="timecode" x="90" y="90" height="100" width="100" search="false"></TIMECODE>`
Attributes	
x,y, width, height	These attributes define position and size of the metadata fields.
max	Defines the maximum number of characters allowed for text inputs.
name	Defines the column title in TX/MAM.
searchable	Metadata fields are only searchable if "search=true".
id	Defines the drag order of columns: the attribute: id="0", id="1", id="2" etc. defines the order of columns when dragging Assets to Playout Control.

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8.3 Defining Folders

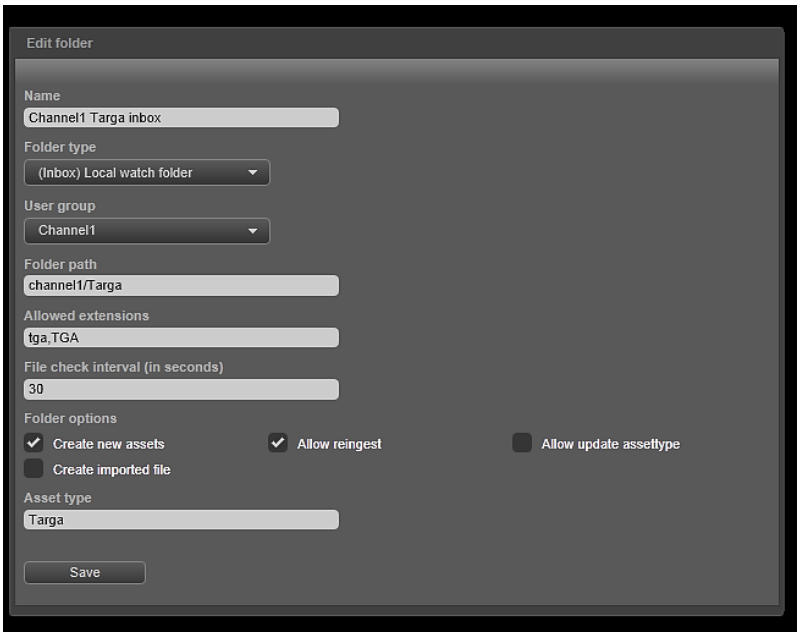
8.3.1 Introduction

In TX/MAM, Inboxes and Outboxes can be configured. Inboxes (watch folders) are automatically checked for files. Based on a number of options described in more detail in paragraph 8.3.2, files in the Inbox are then automatically ingested.

Each Folder is linked to a User Group and Asset Type. Files imported from the Folder are linked to Assets for the specified User group and Asset Type. Assets are automatically related to the Folder Asset Type. When ingest has completed, files are moved from the Inbox.
Files and Assets are linked based on the filename (the first part before the file extension) and the Asset's external reference.

Outboxes are used to export files or Assets to an outbox directory on the Storage server. Outboxes are linked to a User Group. Only Users in the specified User Group are allowed to export to that Folder.
Both Inboxes and Outboxes can be configured on the Storage Server (FTP watch folder), or are locally available on the TX/MAM server, mostly via a mount on the Storage Server. Both Inboxes and Outboxes are linked to a User group.

[See also chapter 14 for an explanation of the ingest workflow.]



Example Folder definition.

Configuration of the Storage server is described in more detail in the Commissioning Manual.

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The Unregistered box is not used at the moment.

8.3.2 Adding a TX/MAM Folder

- Go to **Folders** and click the **Add** button.
- Specify the Folder **Name**.
- Select the **Folder type**.
- Select the **User group** that has access to the Folder.
- Specify the **Folder** path, either on the Storage server or locally on the TX/MAM server (mount).
- **Allowed extensions**: file types that will be imported, separated by a comma. For example: tga,TGA. Other file types will be moved to a failed directory.
- Specify the **File check** interval in seconds.
- Select applicable **Folder options**:
  - **Create new Assets**:

    If this option is activated, when a file is ingested (automatic ingest via an Inbox) and the related Asset (based on external reference) does not exist yet, an Asset is created with the following properties:
    - the Asset Type defined for the Folder
    - transfer metadata is filled in
    - the external reference is set

    If this option is not activated, no Asset is created and the file will not be ingested.

  - **Allow reingest**:

    If this option is activated, when a file is ingested and the related Asset (based on external reference) already exists, the file will be ingested.

    If this option is not activated, the file will not be ingested.

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- **Allow update Assettype**:

  If this option is activated, when a file is ingested and the related Asset (based on external reference) already exists but as a different Asset Type than the folder Asset Type, the file can be ingested as the folder Asset Type if this option is activated. The Asset Type is updated to the Folder's Asset Type.

  If this option is not activated, the file will not be ingested.

- **Create imported file**:

  The **imported** directory contains files for all Assets that have been ingested. Note that the **Create imported file** option should be activated in TX/MAM for the folder to enable this functionality.

  When a file is ingested, a file is created in the imported directory with a name that contains the Asset's external reference, size, time and date of ingest if this option I activated. When this option is not activated, the imported file is not created. By default, these 'imported' files are deleted after 48 hours.

- **Asset type**: select the appropriate Asset Type.
- Click **Save** to save changes, **Cancel** to discard.

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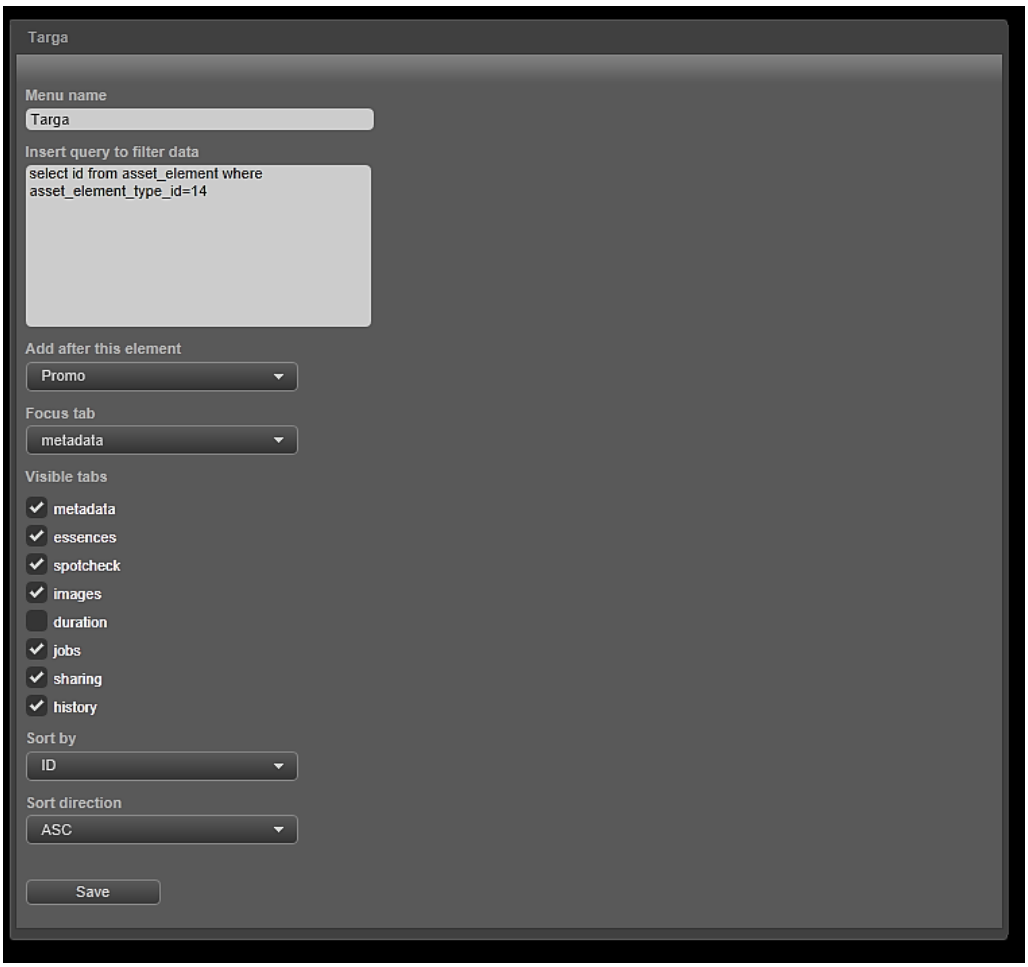
8.4 Defining Menu items

8.4.1 Introduction

Custom menu items can be added to the left hand menu. Custom menu items define a view on Assets in the TX/MAM database, based on a query. The example below shows a Menu item *Music video*, followed by a number of example queries.



Example query.

Example query showing Assets with Asset Type ID 14.

```
select id from asset_element where asset_element_type-id=14
```

Explanation: asset_element_type-id=10 means Asset Type with ID=10.

Example query showing video files that have not been ingested yet:

```
select id from Asset_element where status_int<>1 and file_extension='avf'
```

Explanation:

- status_int = 1 means that the file has been ingested;
- avf is the default file_extension for video files in TX/MAM.

Example query showing the Assets that are scheduled in the future.

```
select id from Asset_element where updated_date > :today
```

Explanation: the field updated_date corresponds with the last scheduled date, so this query will show Assets that are scheduled in the future.

Example query showing video files that have not been ingested and are scheduled in the future.

```
select id from Asset_element where status_int<>1 and file_extension='avf'
and updated_date > :today
```

8.4.2 Adding or editing a menu item

- In the left hand menu, click **Menu items**. The Menu items list opens.
- To add an item, click the **Add** button, to edit an item click the menu item you want to edit.
- Specify the **Menu name** as will be displayed in the menu.
- In the **Insert query..** field, specify a query to filter the Assets you want show.
- Specify where to place the new item in the menu in **Add after..**.
- Select the **Focus tab**, this is the tab that will be active when opening the menu item.
- Select the tabs that will be visible when opening the menu item in **Visible tabs**.
- **Sort** Assets **by** the metadata field selected here.
- Specify a **Sort direction** for the Assets, ascending or descending.
- Click **Save** to save changes.

8.4.3 Deleting a menu item

- In the left hand menu, click **Menu items**. The Menu items list opens.
- Click the item you want to delete.
- Click the **Delete** button.
- Click **OK** to delete, **Cancel** to discard.

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8.5 Defining Jobs, TX Values and Statuses

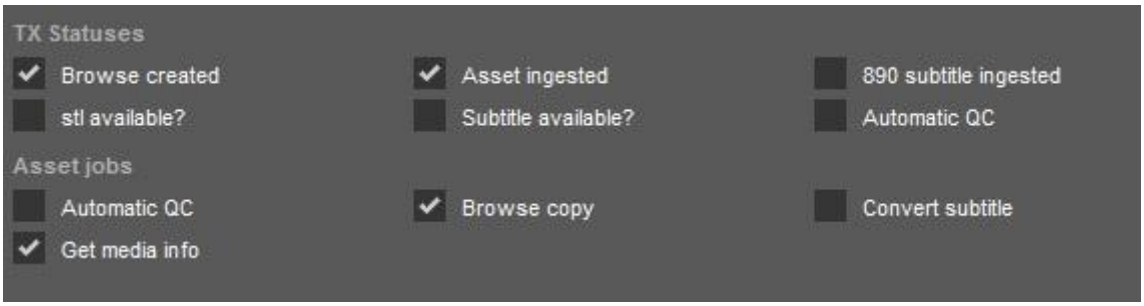
8.5.1 Introduction

TX/MAM lets you define Asset jobs and procedures, for example:

- a job to create a low resolution browse copy of files
- a procedure to retrieve the Asset's file transfer status

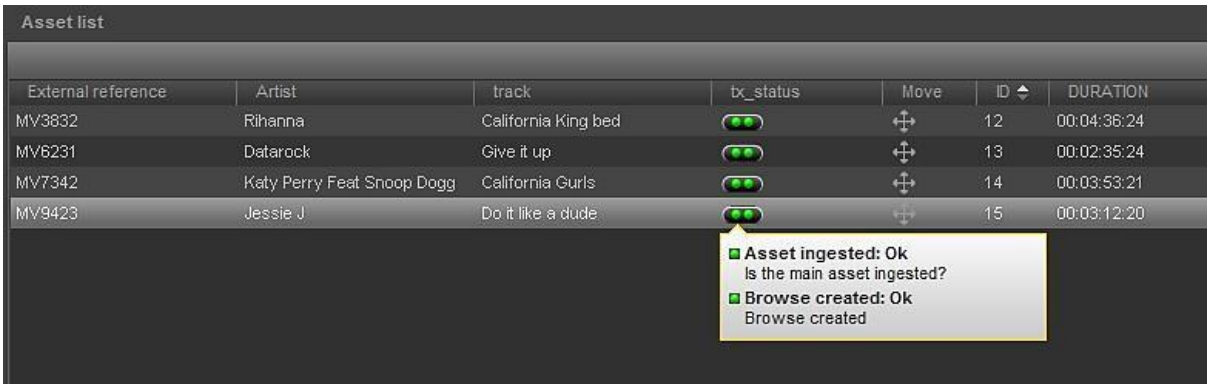
Jobs and procedures can be linked to Asset Types and will then automatically be executed for all Assets of that type.
The picture below shows the jobs and statuses linked to Asset Type 'Music Video':

- A job *Browse copy* to create a low resolution copy of files.
  The status *Browse created* will be displayed in the Asset list's *tx_status* column.
- A job *Get media info*, used to retrieve info about file duration and type.
  This info can then be displayed in the Asset list.
- A status *Asset ingested* that uses a procedure to retrieve information about Assets' file transfer status.
  The status *Asset ingested* will be displayed in the Asset list's *tx_status* column.



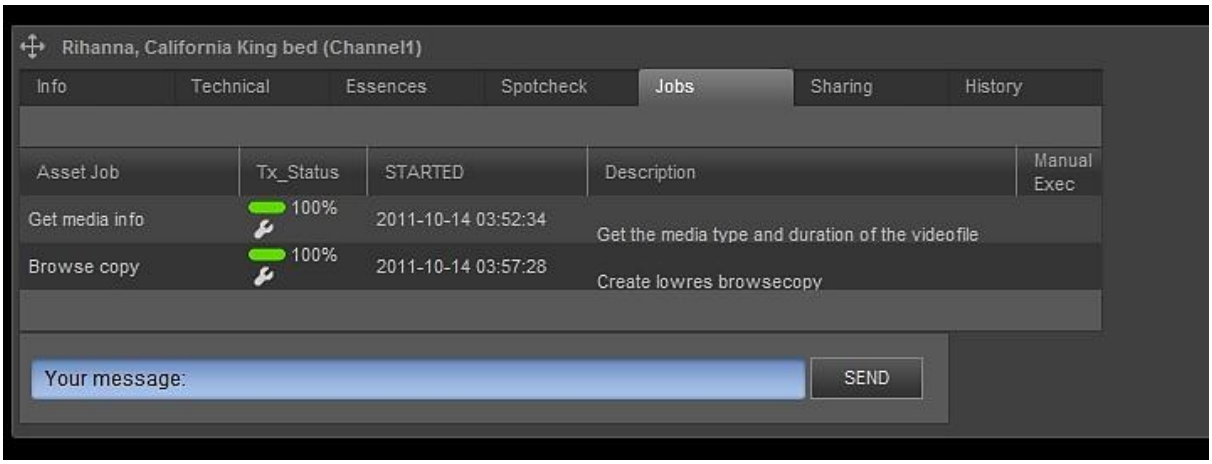
Example Asset Type with linked jobs and statuses.

TX Statuses are displayed in the Asset list's *tx_status* column. The example below shows the Asset list for Asset Type *Music Video*. The *tx_status* column shows the statuses *Browse created* and *Asset ingested* for each Asset. Info retrieved with the *Get media info* job is displayed in the *DURATION* column.



Example.

The Jobs- tab for an Asset of the list shows the status of jobs *Get media info* and *Browse copy*. Note that the Job status can be manually changed. Jobs can be manually executed if this option is enabled in the job configuration.



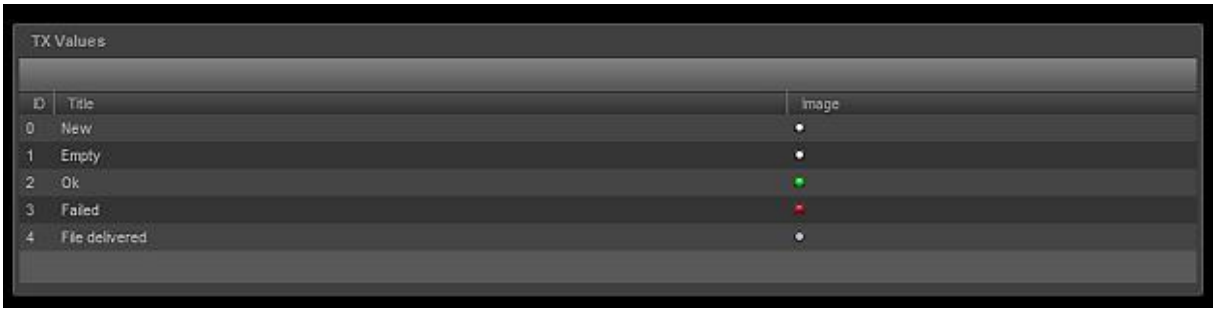
Example Jobs tab.

A number of jobs and procedures are configured by default in TX/MAM.

Job configuration is described in more detail in the Commissioning Manual.

8.5.2 Statuses and values

Each status is linked to a procedure or Job and can have a number of values. Values can be customized. Each value has an ID. Jobs and procedures refer to these IDs. This is explained in more detail on the next pages.



Example values in TX/MAM.

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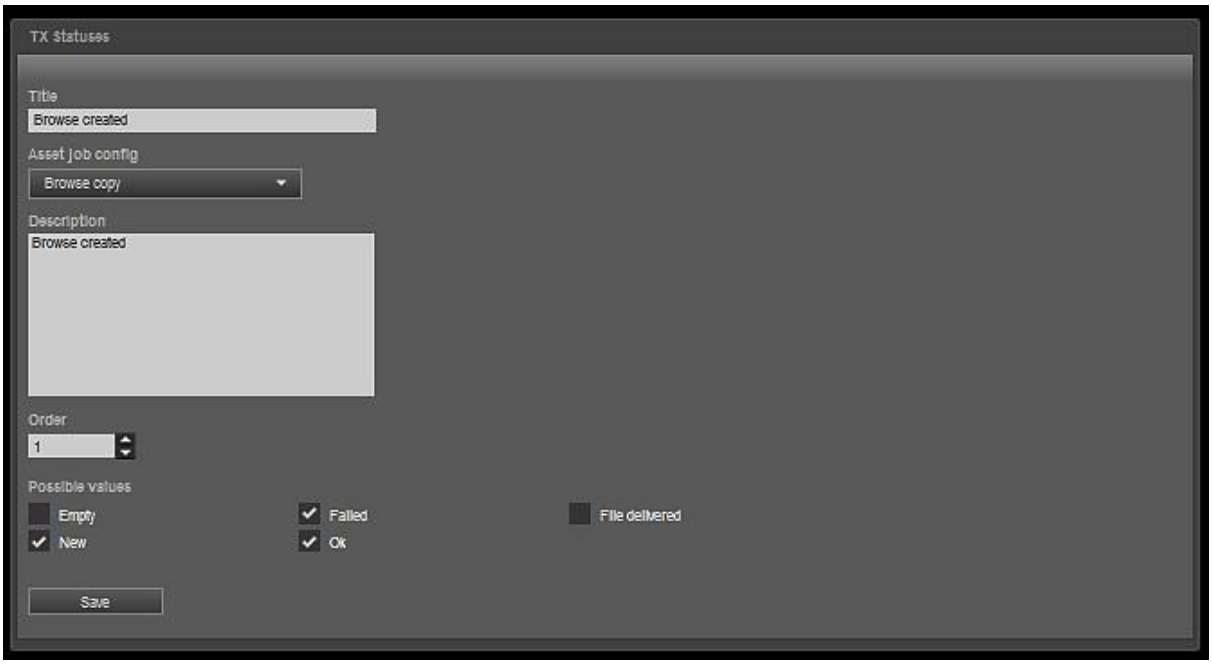
The example below shows the configuration of status *Browse created*. This status is linked to job *Browse copy*. Possible values for this status are *Ok*, *Failed* and *New*.



Example.

The status *Asset ingested?* uses a procedure STATUS_ASSET_INGESTED to retrieve information about the Asset file's status (Empty, OK or Failed). Procedures can be used to retrieve Asset status information from the TX/MAM database.

```
RECREATE PROCEDURE STATUS_ASSET_INGESTED (
  ID Integer
)
RETURNS (
   CODE Integer,STATUSINT Integer
)
AS


BEGIN
  FOR SELECT STATUS_INT FROM ASSET_ELEMENT WHERE ID = :ID INTO :STATUSINT
  DO
  BEGIN
    IF ((STATUSINT = 3) OR (STATUSINT = 0)) THEN
      CODE = 1;
ELSE IF ((STATUSINT = 1) OR (STATUSINT = 100)) THEN
      CODE = 2;
    ELSE
      CODE = 3;
  END
END
```

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Note how the codes refer to the TX values: code 1=empty, 2=Ok and 3=failed.

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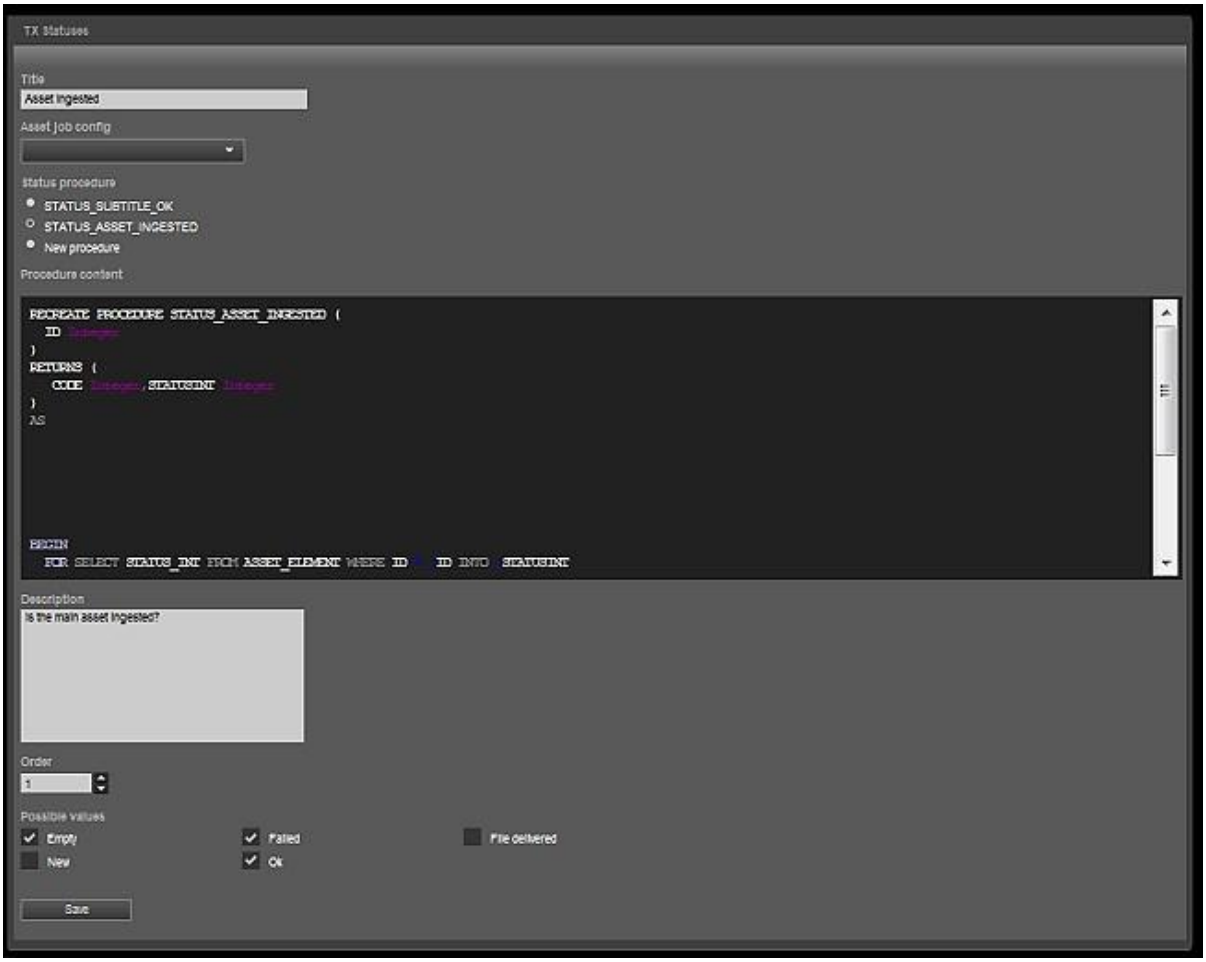

Example.

8.5.3 Workflow defining Jobs

The steps for defining a Job are:

- Define TX Values.
- Define the Asset job.
- Add a TX Status and link to the Asset job, or specify a procedure.
- Link Asset types, jobs and statuses.

8.5.4 Creating or modifying TX Values

- In the left hand menu, click **TX Values**. The TX Values list opens.
- To add an item, click the **Add** button, to edit an item click the value you want to edit.
- In the **Title** field, specify the name for the value.
- To change or select an image, click the **Browse** button to select a TX Image and/or ES Image.

  You can use .gif and .png images.

  - The TX Image is displayed in the tx_status column.
  - The ES Image is displayed on the Essences tab.
- Click **Save** to save changes.

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8.5.5 Defining Asset jobs

- In the left hand menu, click **Asset jobs**. The Asset jobs list opens.
- To add an item, click the **Add** button, to edit an item click the job you want to edit.
- In the **Name** field, specify the name for the job.
- **Job definition**: job configuration is described in the FTP-server User Manual.
- Under **Manual exec** select **Yes** if it should be possible to manually execute the Job.
- Add a short job description in the **Description** field.
- Select **Possible values** this job can have.
- Select the Default TX-status value.
- Click **Save** to save changes, **Cancel** to discard.

8.5.6 Defining TX Statuses

- In the left hand menu, click **TX Statuses**. The TX Statuses list opens.
- To add an item, click the **Add** button, to edit click the item you want to edit.
- In the **Title** field, specify the name for the status.
- Now either;
    - Select an Asset job config.
    - Select a status procedure.
    - Select the **New procedure** option and define a procedure in the **Procedure content** field.
- You can add a description of the status in the **Description** field.
- In the **Order** field you can specify in which order you want to display statuses in the tx_status column.
- Select **Possible values** for this status.
- Click **Save** to save changes, **Cancel** to discard.

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9. Asset Management with TX/MAM

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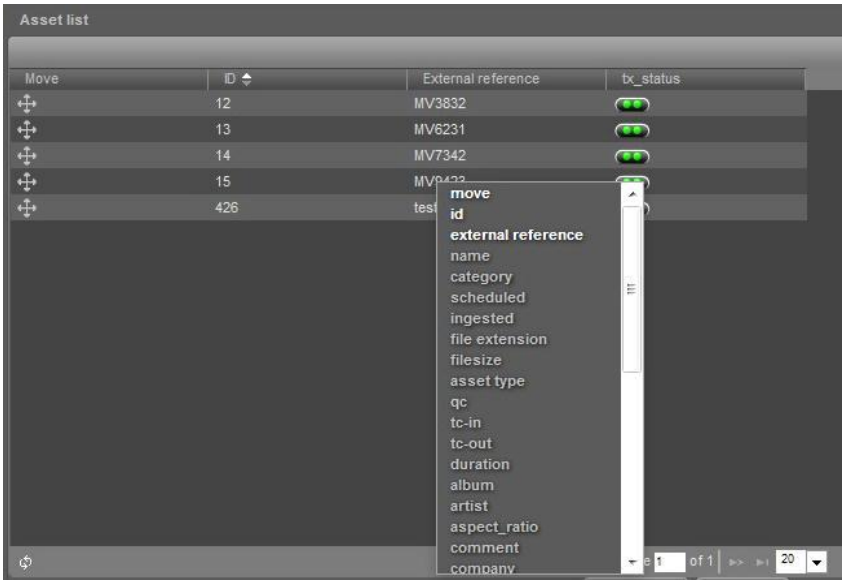
You need appropriate user rights to work with Assets. The superuser or administrator role can assign these rights.

9.1 Customizing the Asset List

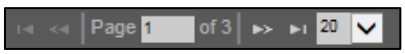
The columns in an Asset list show the metadata fields defined for Assets of that type. To display additional columns:

- Right-click the list.
- Select the columns you want to add.



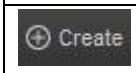
Example customize columns.

To change the number of items listed or go to another page, use the options at the bottom of the list.



Click the icon to refresh the list.

9.2 Creating Assets

All Assets	▪ To create an Asset, in the menu, select the All Assets or a custom Asset list.
	▪ Click the **Create** button.
User group	▪ Select the User group that will have access to this Asset.
Type	▪ Select the Asset Type the Asset belongs to. Note that only the Asset Types linked to the User group selected in the previous field are listed here.
Category	▪ Not used.
External reference	▪ Specify the Asset's external reference.
Create	▪ Click **Create** to create the Asset, **Cancel** to discard.

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9.3 Editing an Asset's metadata information

To view or edit an Asset's metadata fields:

- To edit an Asset, select the Asset on the All Assets or a custom Asset tab to open, then select the applicable metadata tab.
- Edit the metadata fields.
- To save changes, click **Save**.

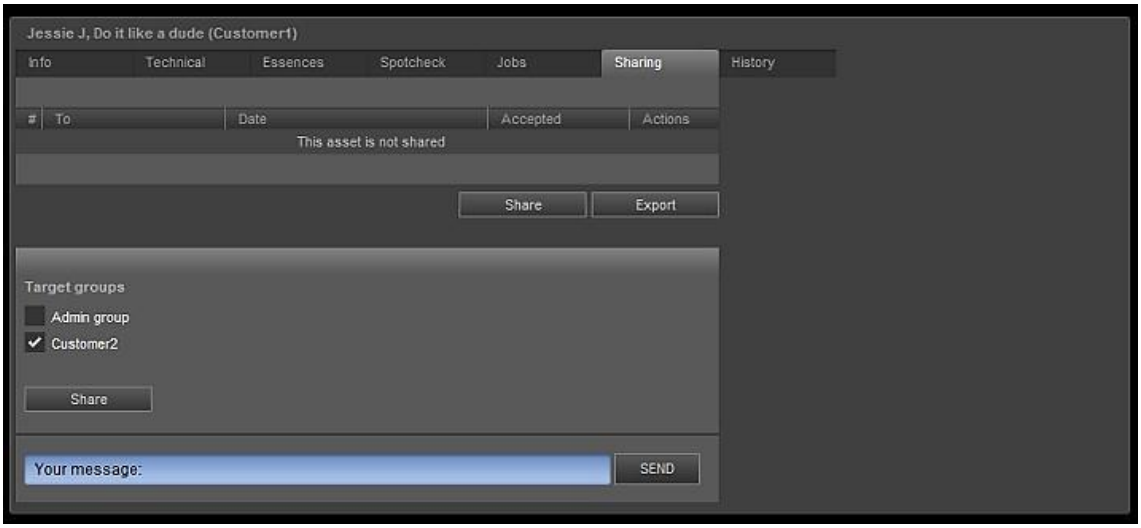
9.4 Sharing Assets

Assets are linked to a User Group, but can be shared with other Groups.

To share Assets with a User Group:

- Open the Asset and go to the **Sharing** tab.
- Select the User Group you want to share the Asset with and click **Share**.

  The status of the Asset changes to: Pending.



Example Asset being shared with User Group Customer 2.

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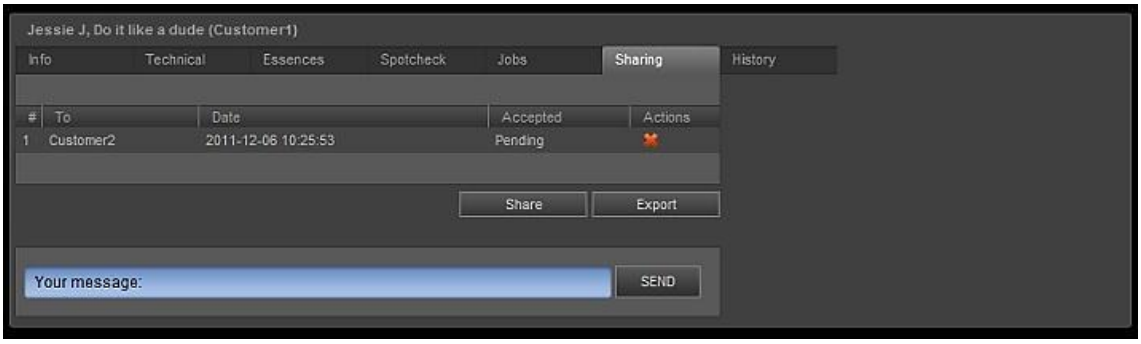
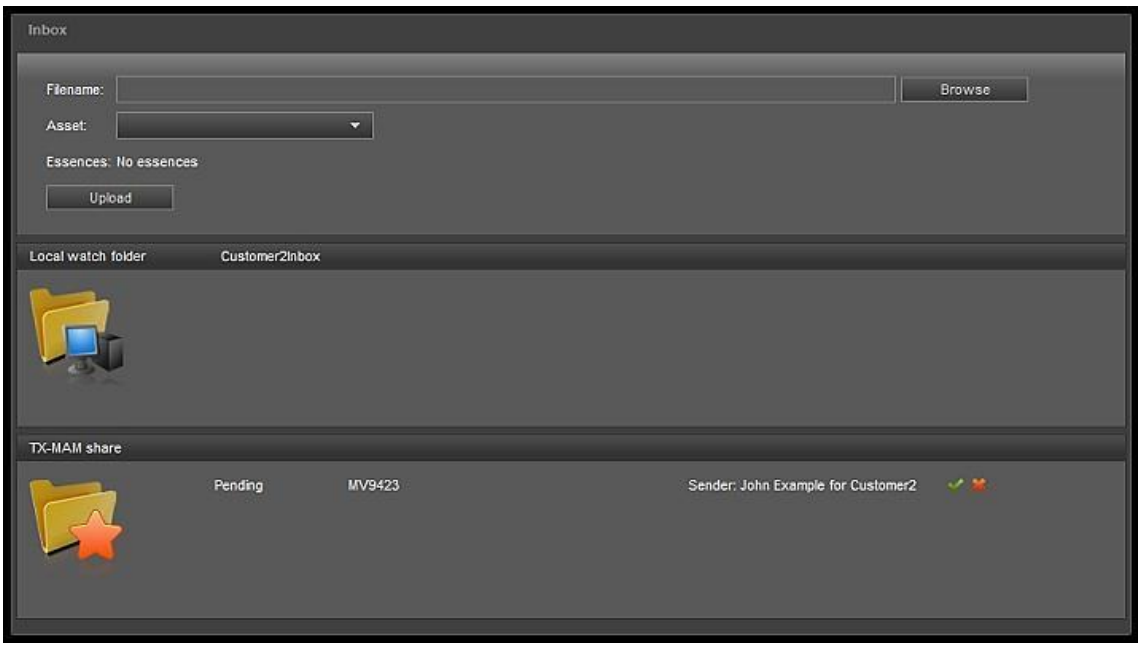


Example Asset pending for acceptance.

Example Asset pending for acceptance in the Customer1's share Outbox.

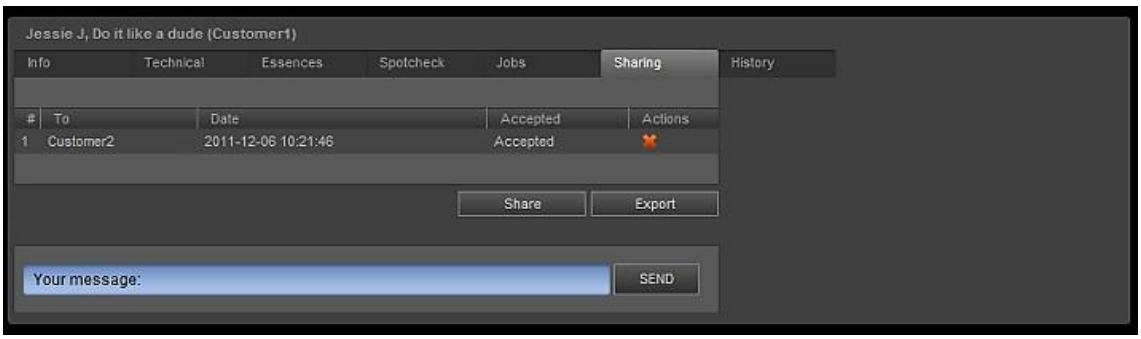


Example Asset pending for acceptance in Customer2's share Inbox.

To accept an Asset that has been shared with your User Group:

- Go to the **Inbox** > share Inbox.
- Click the icon to accept the Asset, click the icon to decline.

Once accepted, the Asset disappears from the Inbox and is added to the Asset list.



Example Asset accepted as shown in Customer1's share Outbox.

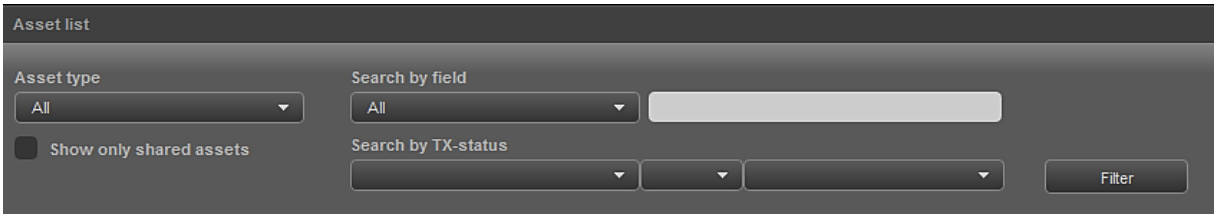
- You can remove an Asset from the share Outbox with the icon.

9.5 Asset Search

Search	To search for specific Assets, click the **Search** option in the top right corner toolbar. Several filter options are available, including search by Asset Type, metadata field or status

9.6 Filtering the Asset List

Filter	The Asset list can be filtered based on a number of criteria. Select criteria and click the **Filter** button.



9.7 Deleting Assets

Delete	This option will delete both the Asset info and related files (Essences). Select the Asset, then in the top right corner toolbar click the **Delete** option.

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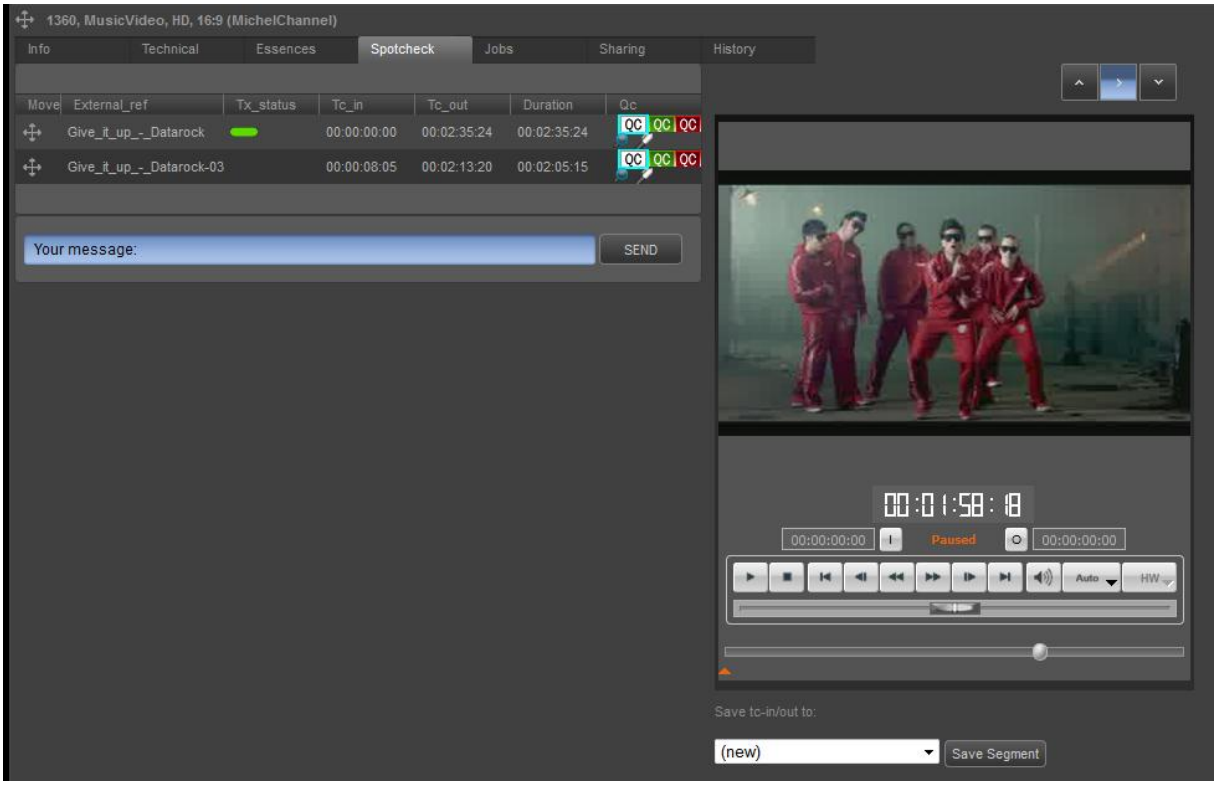
9.8 Spotcheck and segmenting (soft parts)

Use the Spotcheck function to preview the quality of low-res clips via the TX/MAM web browser and to create soft part segments.



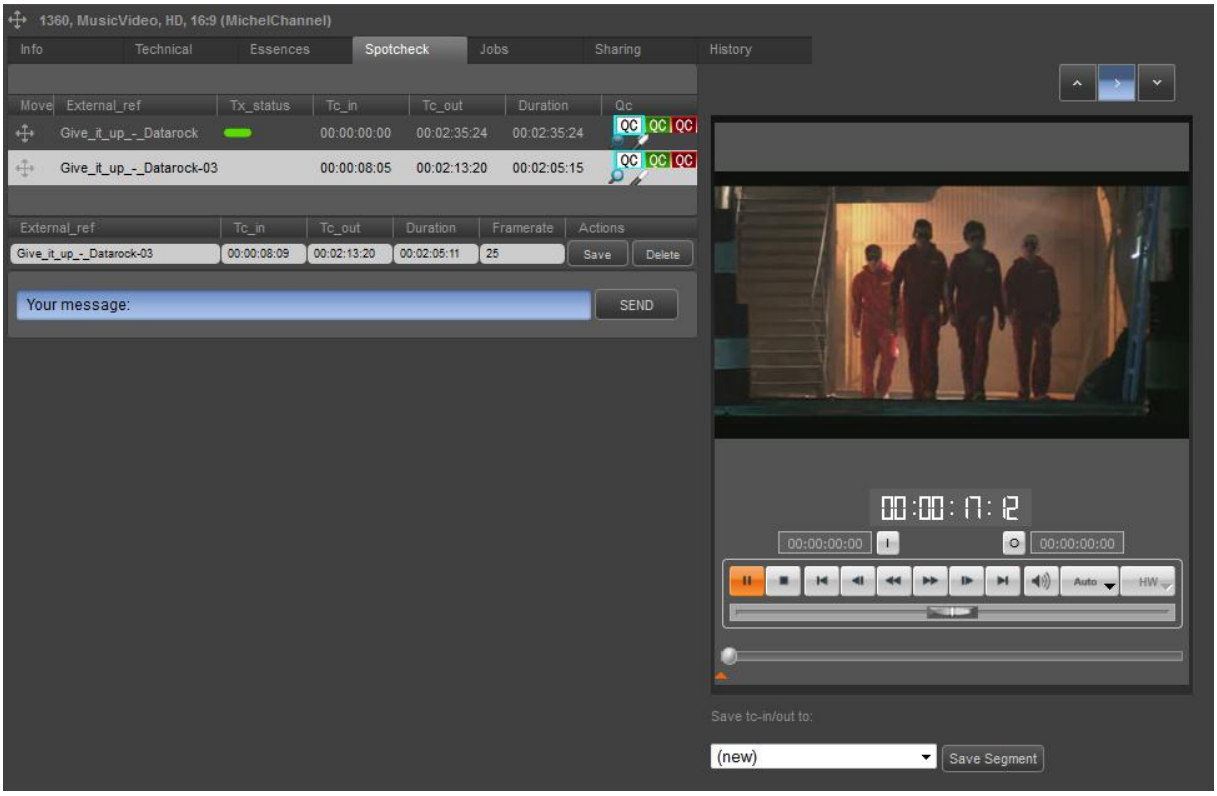
Example Spotcheck tab.

9.8.1 Spotcheck (QC)

- Open the Asset you want to view and go to the **Spotcheck** tab.
- Click the icon for the clip or segment you want to preview.
- Use the control buttons, shuttle control and timeline to navigate through the clip.
- When finished, click the appropriate QC status icon (the default icons are listed below):

	This file has not been checked.
	This file has been checked and quality was good.
	This file has been checked and quality was not good.

9.8.2 Creating Segments



Example segmenting tab.

- Select the Asset you want to trim, then select the **Spotcheck** tab.
- Click the icon.
- To create a segment with a new external reference, specify an external reference in the **External_ref** field.
- Use the control buttons, shuttle control and timeline to navigate through the clip.
- Click the tc-in and tc-out buttons to set timecode in and out.
- Click **Save** to save.

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- To add a segment named <external reference>+<suffix>, for example *musicclip-1*:
- Use the control buttons, shuttle control and timeline to navigate through the asset.
- Click the tc-in and tc-out buttons to set timecode in and out.
- Select (new) in the dropdown list.
- Click **Save Segment**.
- Select a suffix > **OK**.

- To modify an existing segment:
- Use the control buttons, shuttle control and timeline to navigate through the clip.
- Click the tc-in and tc-out buttons to set timecode in and out.
- Select the segment from the dropdown list > **Save Segment**.

Segments can be scheduled (drag and drop into POC using the icon), but are not listed in the Assets list.

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9.9 Hardware preview

The TX/MAM HW-preview allows you to play out clips on a K2 Edge Channel and to preview in TX/MAM.

To preview:

- In TX/MAM, select a clip and go to the **Spotcheck** tab.
- To load the clip, in the player panel, click the button.
- To switch to HW-preview, stop playout by clicking the button.
- Click the HW-button and open the dropdown menu, select a Channel.
- Click the button to start HW-preview.

Note how the HW-button turns orange when in HW-mode, as shown in the example below.

In HW-preview mode the shuttle slider, step, fast forward and go-to-end/beginning options are not active. Also note that preview in TX/MAM and on the output are not in sync.

- To stop HW-preview, stop playout by clicking the button.
- Click the HW-button and open the dropdown menu.
- Select **Disable**.

When a new clip is loaded, TX/MAM automatically switches to spotcheck-mode. Note how the HW-button turns grey when in normal spotcheck-mode.

Configuration of HW-preview channels is described in the Commissioning Manual.

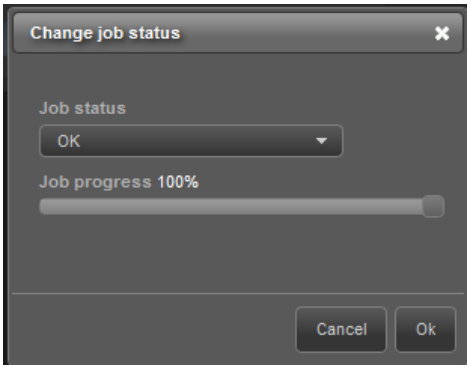
9.10 Working with Asset Jobs

To view the Jobs linked to an Asset:

- Double click the Asset, then select the **Jobs** tab. Information on the Jobs tab includes status, job start date and time and description.

To manually change the status of a Job:

- In the **Tx_status** column, click the icon and select the appropriate status.
- Click **Ok** to confirm changes, **Cancel** to discard.



Example Change Job status window.

This option changes a Job's status, but does not restart the Job. This can be done by manually executing a Job, if this option is configured for that Job.

To manually execute a Job:

- In the **Manual Exec.** column, click the icon. Note that this option has to be configured.

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9.11 Exporting Assets and Files

To export Essence files to the FTP-server:

- Go to the Asset's **Sharing** tab > **Export**.
  Files will be exported to the specified outbox on the Storage server. The Outbox menu shows the assets which are exported. Assets are removed from the Outbox when transfer has completed.

To export Asset info as a CSV-file:

- Open the applicable Assets list.
- Click the **Export Part** option to export the current page to a given location.
- Click the **Export All** option to export the list to a given location.

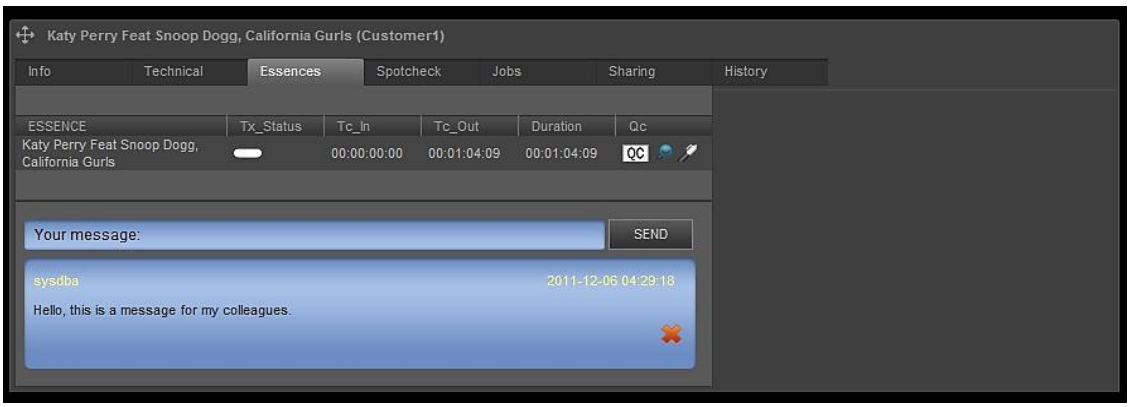
Note: The columns which are shown in the asset list are exported to the csv-file.

You can select multiple Assets in the Asset list using the check box, then export.

9.12 Adding messages to Assets

To add comments to an Asset:

- Enter information in the message box, then click **SEND**.
  Comments will be displayed in the Asset window.
- Click the icon to remove a message.



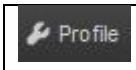
Example message displayed on the Essences tab.

9.13 History

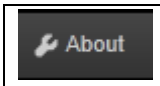
Use this option to view an Asset's history, or to add comments to an Asset. To display:

- Double click the Asset, then select the **History** tab.

9.14 Profile

	Use this option to modify your user's credentials or email address. To edit: ▪ Log in with the user you want to edit. ▪ Click the **Profile** option, then modify properties. Note that credentials are case sensitive. ▪ Click **Save** to save changes.

9.15 About

	Show versions and release notes.

9.16 Ingest

Files are ingested via predefined Inboxes. This is a superuser or administrator task.

The ingest workflow is described in chapter 14.

The Commissioning and engineering Manuals describe configuration and administration of the Storage server.

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10. Channel Management

10.1 Introduction

Define and manage Channels in TX/MAM. The Channel definition is used by the Cobalt processes. Create a Channel definition for each Channel that you will use and for both the main and backup K2 Edge nodes. Default Channels are preconfigured (for the main playout).

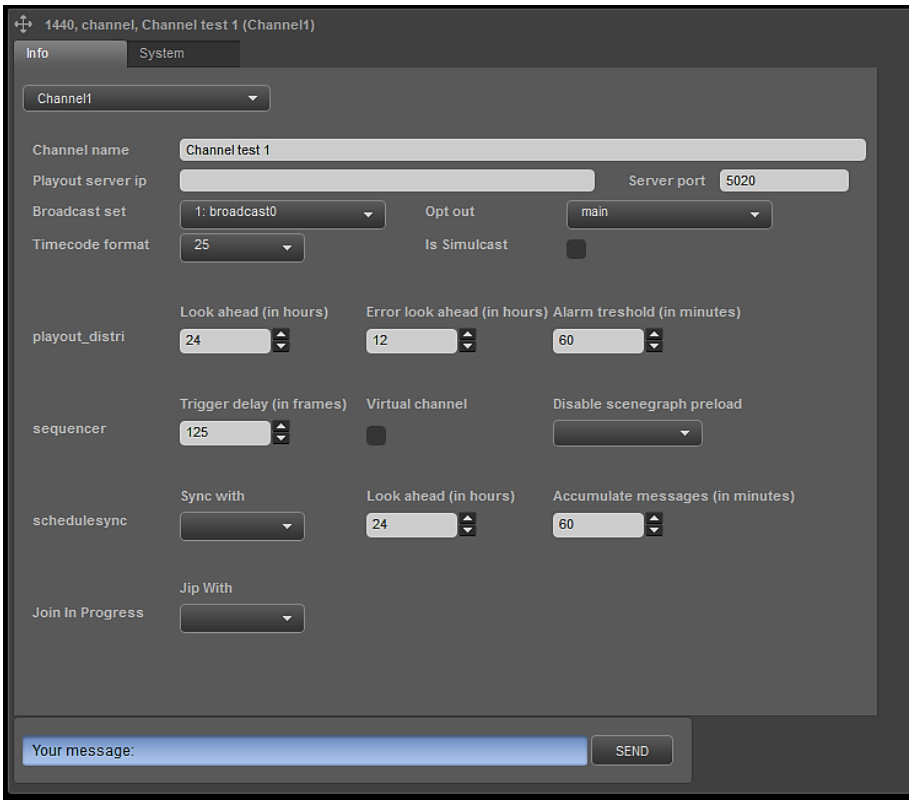
10.2 Defining Channels in TX/MAM

- In the menu, select **Channels** and click **Add**.
- Select a **User group.**
- Specify an **External reference.**
- Click **Create** to create the Channel, **Cancel** to discard.
- Edit the Channel as described in the next paragraph.

10.3 Editing Channels in TX/MAM

- To edit a Channel, in the menu select **Channels**, then select the Channel you want to edit.

On the **Info** tab:



- Select a User group from the dropdown menu.
- **Channel name**: specify a Channel name
- **Playout server ip**: the IP-address of the K2 Edge playout node (main or backup) this Channel will run on.
- **Server port**: the playout server port, default 5020
- **Broadcast set**: select the appropriate broadcast set:

Channel	Broadcast set
Single HD/SD	1:broadcast0
Simulcast 1 of 2 (HD)	1:broadcast0
Simulcast 2 of 2 (SD)	1:broadcast0
Preview	2:broadcast1
Record	4:broadcast3
JIP	5:broadcast4

- **Opt out**: not used
- **Timecode format**: select the timecode format for this Channel
- **Is Simulcast**: used for JIP only in a simulcast configuration

playout distri

- **Look ahead (in hours)**: look ahead time for the playout_distri process in hours
- **Error lookahead (in hours)**: look ahead time for errors: main Events between current time and current time plus error look ahead time are checked
- **Alarm threshold (in minutes)**: not used

sequencer

- **Trigger delay (in frames)**: trigger delay in frames for manual Events
- **Virtual channel**: check to specify: no sequencer
- **Disable scenegraph preload**: used for JIP, enable for JIP-channel

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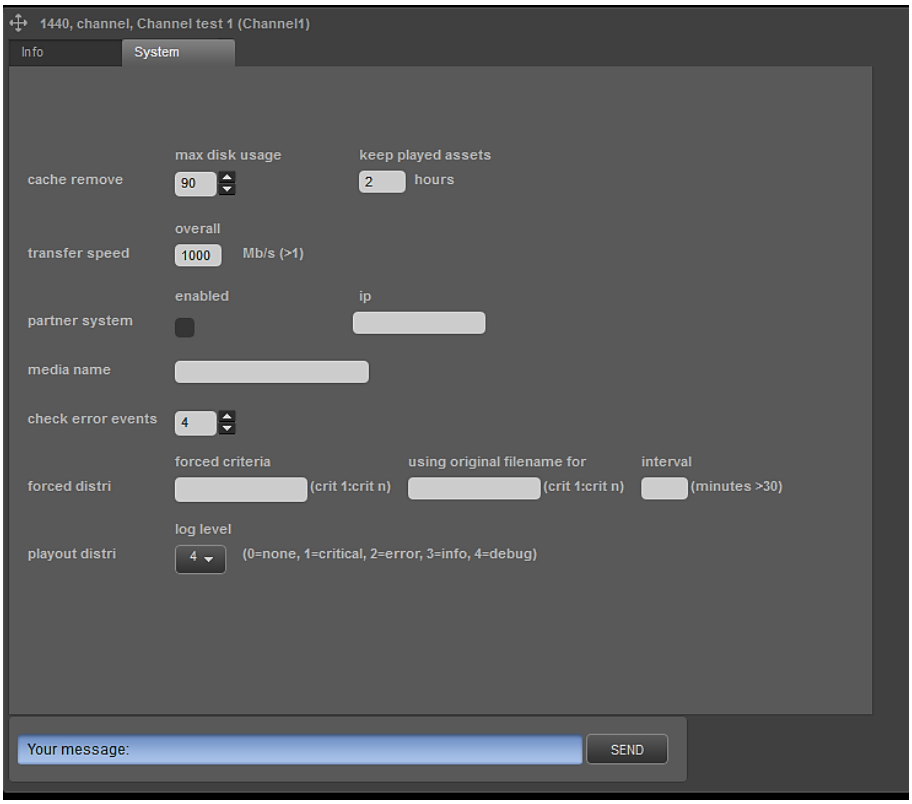
schedule sync

Only fill in this section when you are configuring a backup Channel.

- **Sync with**: select the Channel this backup Channel will sync with
- **Look ahead (in hours)**: look ahead time in hours
- **Accumulate messages**: update messages from schedule syncer, in minutes. Messages are logged to /var/log/schedulesync.log.

- **Join In Progress – JIP with**: only specify when defining a JIP-channel. Select the Channel to JIP with; this should be the primary Channel (broadcast set 0).

On the **System** tab:



cache remove

- **max disk usage**: in %
- **keep played assets**: keep played assets on playout system for <hours>

transfer speed

- **overall**: transfer speed between playout system and TX/MAM database in Mb/s
- **partner system**: check to use partner system with **ip**: partner system ip
- **media name**: name of the transfer location (optional)
- **check error events:** number of error Events that playout_distri re-checks in each cycle, before skipping to new Events

forced distri

- **forced criteria**: specify forced files. Forced files are not removed from the playout system. Syntax: criterion 1:criterion n. Specify a metadata field or Asset Type (as defined in TX/MAM). Place Asset Types between [AssetType].
- **using original filename for**: use this option if you want to use the original name for forced files.
  Syntax: criterion 1:criterion n. Specify a metadata field or Asset Type (as defined in TX/MAM). Place Asset Types between [AssetType].
- **interval**: interval between checks in minutes (>30)

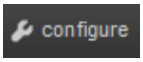
playout distri

log level: select a log level. Messages are logged to /var/log/playout_distri.log.

Click the **Save** button to save changes.

☞
Note that after changing a Channel name, user rights for the Channel have to be set again.

10.4 Editing the Channel Asset Type

- To edit the Channel Asset Type, in the menu select **Channels** and click the 

icon.
- Edit applicable fields and click **Save** to save changes.

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11. User Management for Channels

Read/write rights for Playout Control and Channels are set in TX/MAM.

Name	Username	POC		cannel1		Channel test 1		Channel Test 2		MichelChannel		Channel1	
AssetImport	AssetImport	R	W	R	W	R	W	R	W	R	W	R	W
AssetInboxImporter	AssetInboxImporter	R	W	R	W	R	W	R	W	R	W	R	W
AssetJob	AssetJob	R	W	R	W	R	W	R	W	R	W	R	W
AssetJobHandler	AssetJobHandler	R	W	R	W	R	W	R	W	R	W	R	W
BrowseCopy	BrowseCopy	R	W	R	W	R	W	R	W	R	W	R	W
GetMediaInfo	GetMediaInfo	R	W	R	W	R	W	R	W	R	W	R	W
	LinkEssence	R	W	R	W	R	W	R	W	R	W	R	W
OutboxExport	OutboxExport	R	W	R	W	R	W	R	W	R	W	R	W
Pietje Pelle	pietje	R	W	R	W	R	W	R	W	R	W	R	W
ScheduleImport	ScheduleImport	R	W	R	W	R	W	R	W	R	W	R	W
sysdba	sysdba	R	W	R	W	R	W	R	W	R	W	R	W
user1	user1	R	W	R	W	R	W	R	W	R	W	R	W

Example.

A number of users are predefined. To add a user, follow the instructions in chapter 8.1.5.

- To set read/write rights, go to User Rights and select or unselect the R/W options per user, POC and Channel.

Go to User groups to set user rights for TX/Dashboard.

Go to Users to set user rights for TX/MAM and TX/Dashboard.

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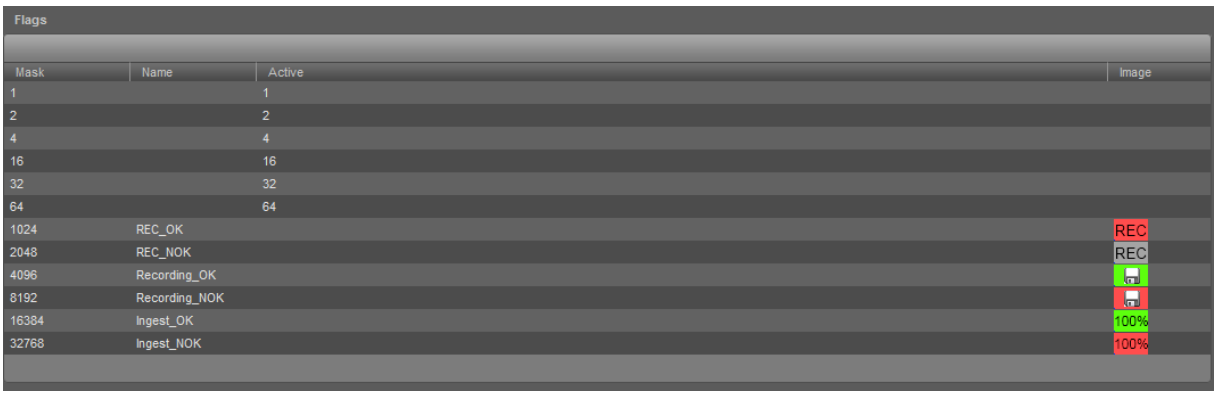
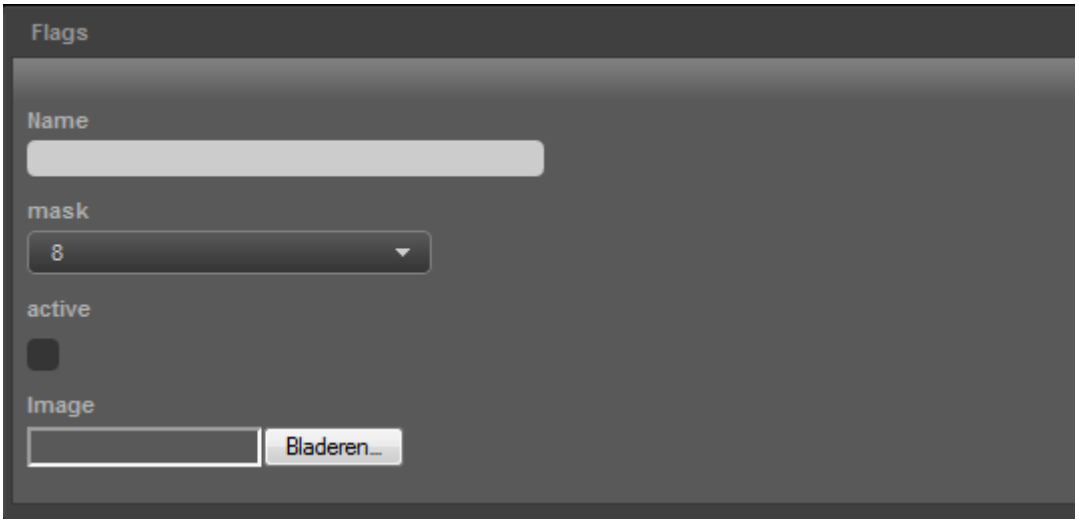
12. Flags

Define Playout Control (POC) Flags in TX/MAM.



Example.

- Select **Flags** > **Create** to add a flag, or select a Flag to edit.



Example.

- Specify a **Name**, **Mask** and select an **Image**.
- Check the active option to activate the flag; the flag will be displayed in POC.
- Click **Save** to save changes, **Cancel** to discard.

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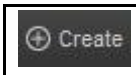
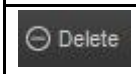
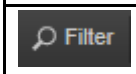
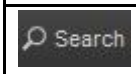
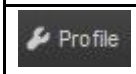
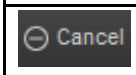
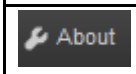
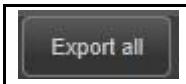
13. Quick Reference

13.1 Toolbar

	Create item.
	Add item.
	Delete item.
	Filter Assets in the Asset list.
	Save item.
	Close item.
	Search option.
	Edit profile (current user).
	Cancel option.
	Logout.
	Version and release info.

13.2 Export options in the Assets list

	Export all Assets in the list to a CSV-file.
	Export Assets on the current page to a CSV-file.

13.3 Assets

13.3.1 Info, technical and other custom metadata tabs

These tabs show metadata info as defined in the metadata definition.

	To edit, edit fields, then click **Save**.

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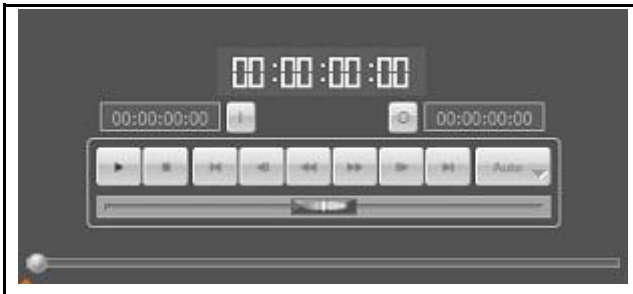
13.3.2 Essences tab

Tx-status	The status of file ingest. Note that these status icons can be customized.
Tc_in	Timecode in.
Tc_out	Timecode out.
Duration	File duration in hh:mm:ss:ff.
Filesize	File size
QC	Indicates the status of a file's quality check (spotcheck). Note that these status icons can be customized. The default icons are:
QC QC QC	This file has not been checked. This file has been checked and quality was good. This file has been checked and quality was not good.
	Click to edit the essence.

13.3.3 Spotcheck tab

	Drag a file or segment into POC to schedule an Event. The Event is scheduled with the default Format.
External_ref	External reference, click to edit.
Tx-status	The status of file ingest. Note that these status icons can be customized.
Tc_in	Timecode in.
Tc_out	Timecode out.
Duration	File duration in hh:mm:ss:ff.
QC	Indicates the status of a file's quality check (spotcheck). Note that these status icons can be customized. The default icons are:
QC QC QC	This file has not been checked. This file has been checked and quality was good. This file has been checked and quality was not good.
	Click to start a (low-res) preview.
	Click to edit an essence or segment.



Use the control buttons, shuttle control and timeline to navigate through the clip.

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	Click the tc-in button to set timecode in.
	Click the tc-out button to set timecode out.
	Click to set a QC-status for the selected file or segment.

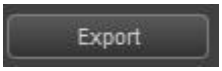
13.3.4 Jobs tab

Shows the Jobs linked to an Asset and their status.

Tx-status	Job status. Note that Job statuses can be customized.
	Click to manually change the Job status. Note that the status is changed, but the Job is not re-executed.
STARTED	Start date and time for this Job.
Manual Exec	Jobs can only be manually executed if this option is configured. If so, the tool-icon is listed in this column. Click to execute the Job.

13.3.5 Sharing tab

Assets can be shared or exported on the Sharing tab. When shared, this tab shows if the Asset has been accepted.

	Share an Asset with another User Group, see chapter 9.4 for an explanation.
	Export an Asset's Essence files to the FTP-server, see chapter 9.11 for an explanation.

13.3.6 History tab

The Asset's History lists the Asset Jobs or user actions performed for the Asset.

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13.4 Asset Type window

Option	Description
Title	The Asset Type name.
Link as essence to type	If applicable, link this Asset Type as an Essence to an Asset Type.
Definition XML	The Asset Type's custom metadata definition.
Transfer protocol	Specify a transfer protocol for files of this Asset Type. Transfer settings specify amongst others the storage location and are used when fetching files from storage.
Required	Not implemented.
Quality Check Required	Not implemented.
TX Statuses **Asset jobs**	Select the TX Statuses and Jobs that apply for Assets of the type defined here. Note that Asset jobs and TX Statuses should match.
Plain/CTRL/SHIFT/ALT drag format	Specify the Format that will be linked to Events when an Asset is Plain/CTRL/SHIFT/ALT-dragged into a POC-Playlist. If you do not want to link a fixed Format, use the DFLT dummy Format.
Save	Click to save changes.

13.5 User group window

Option	Description
Name	User group name.
Description	Description of the User Group.
Administrators	Activate to assign administrator rights to the Group.
Superuser	Activate to assign superuser rights to the Group.
Asset Type	Select the Asset Type(s) this User Group has access to.
TX/Dashboard	Select the TX/Dashboard options this User Group has access to.
Save	Click to save changes.

13.6 Users window

Option	Description
Username	Username.
Password	Password.
Real name	The user's real name.
E-Mail	The user's e-mail address.

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Secret question	Secret question.
Secret Answer	Secret answer.
Don't display metadata..	If applicable, specify metadata tabs this user is not allowed to see, comma separated.
Date Format	Select a data format for this User.
Time Format	Select a time format for this User.
Applications	Applications the user is authorized for:
User groups	Select the User Group(s) the User belongs to.
Authorization level	
Create	The user is allowed to create Assets.
Read	The user has read rights for the Asset folders.
Delete	The user is allowed to delete Assets.
Mutate	The user can edit allowed tabs [see below].
Download	The user is allowed to export files.
Upload	The user is allowed to accept shared Assets.
Allow Drag&Drop	The user is allowed to drag Assets into POC.
List Export	The user is allowed to export Assets from an Asset list.
Allowed menu items (list)	
<Menu items>	Select the Menu items the User has access to.
Tabs allowed to mutate (only available when the Mutate option is active)	
Metadata	The user is allowed to edit metadata.
Essences	The user is allowed to view essences.
Spotcheck	The user is allowed to perform Quality Checks and soft parting.
Jobs	The user is allowed to view and change job statuses.
Sharing	The user is allowed to share Assets.
Save	Click to save changes.

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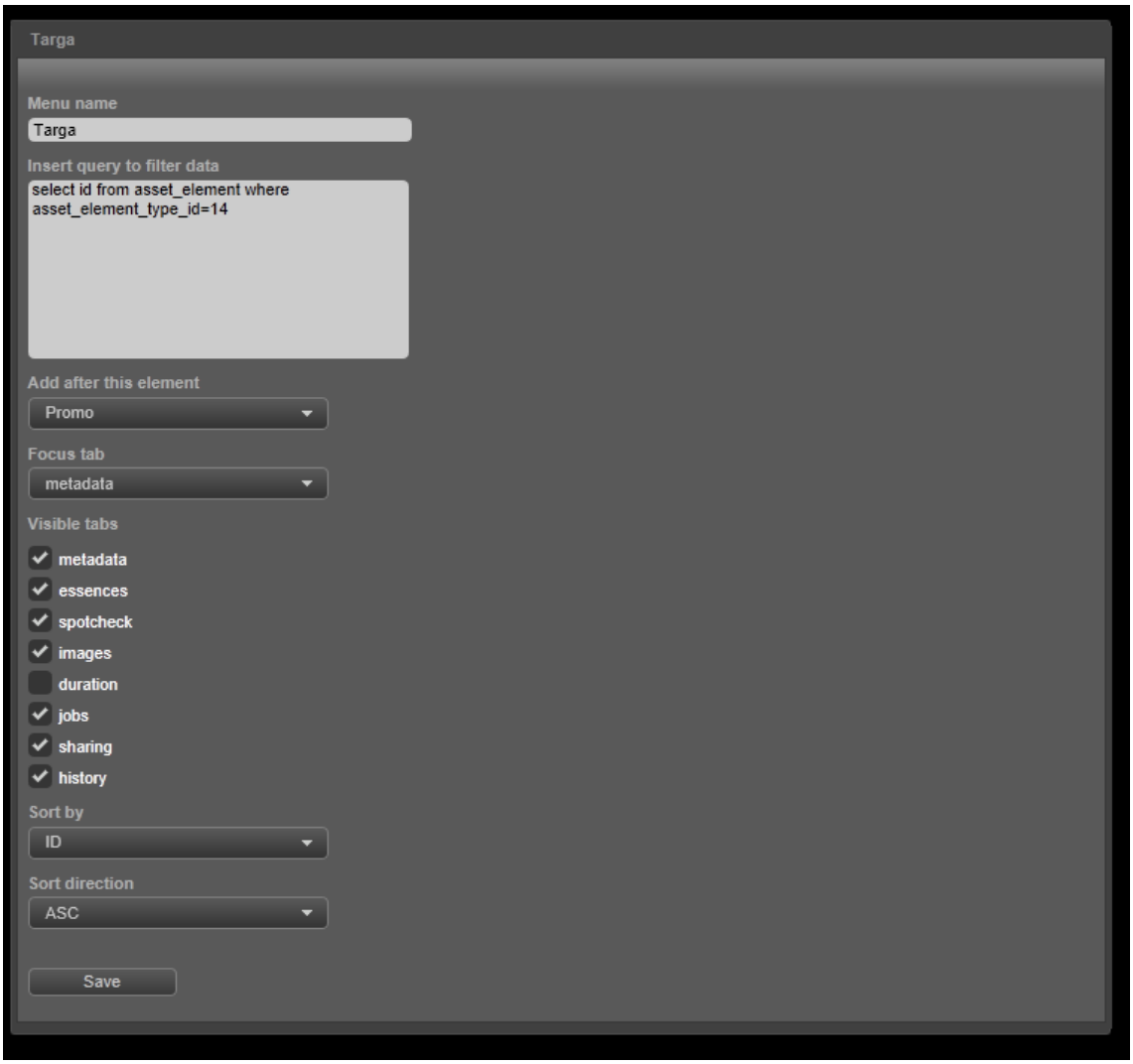
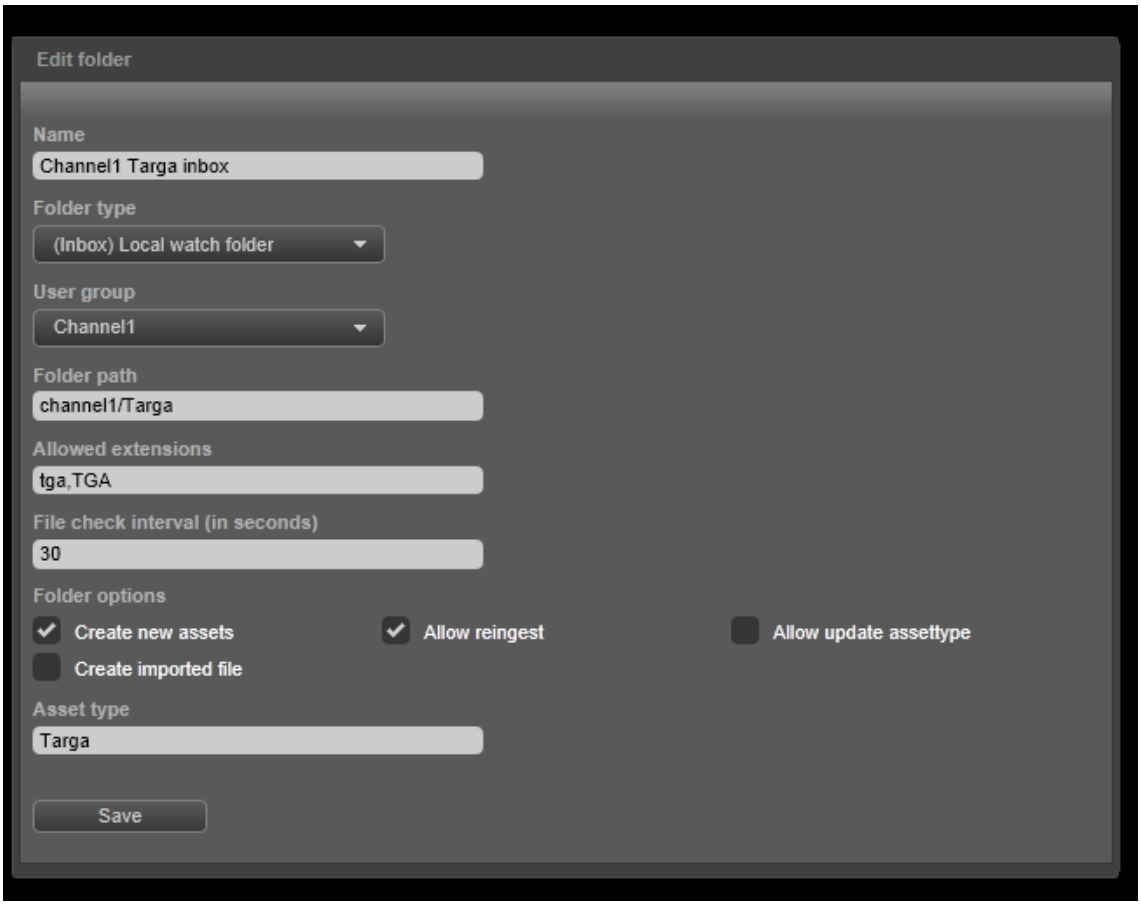
13.7 Menu items window



Example.

Option	Description
Menu name	Name of the menu item (as will be displayed in the menu).
Insert query ..	Specify a filter query here.
Add after ..	Specify the menu order here.
Focus tab	The tab that will be active when opening the menu item.
Visible tabs	The tabs that will be visible when opening the menu item.
Sort by	Sort Assets by the property selected here.
Sort direction	Assets sort order; ascending or descending.
Save	Click to save changes.

13.8 Folders window



Example Folder window.

Option	Description
Name	The Folder name.
Folder type	The Folder type: • (Inbox) FTP watch folder: not implemented. • (Inbox) Local FTP folder • (Outbox) FTP push folder: not implemented. • (Outbox) Local push folder Explanation: • Watch folder: this folder is automatically checked for files for ingest. • Push folder: files can be (manually) exported to this folder. FTP: folder on the K2 Storage Server. • Local: folder on the TX/MAM server, mostly via a mount on

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	the Storage Server.
User group	The User Group that has access to the folder.
Folder path	Folder path.
Allowed extensions	File types allowed in this folder.
File check interval	Interval in seconds at which the folder is checked for files.
Folder options	
Create new Assets	When a file is ingested (automatic ingest via an Inbox) and the related Asset does not exist yet, an Asset is created if this option is activated. (Files and Assets are linked based on the Asset's external reference. This is the filename without extension.) The Asset will have following properties: • the Asset Type defined for the folder; • transfer metadata is filled in; • the external reference is set. If this option is not activated, no Asset is created and the file will only be ingested if the Asset already exists.
Allow reingest	When a file is ingested and the related Asset (based on external reference) already exists and has content, if this option is activated the file will be ingested. If this option is not activated, the file will not be ingested.
Allow update Assettype	When a file is ingested and the related Asset (based on external reference) already exists but has a different Asset Type than the folder Asset Type, if this option is activated the file can be ingested with the folder Asset Type. If this option is not activated, the file will not be ingested.
Create imported file	Select to create 'imported' files.
Asset type	Assets are automatically added to the Asset Type specified here.
Save	Click to save changes.

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13.9 TX Values window

Example TX Values window.

Option	Description
Title	The value's name.
Image	Select the image you want to link to this status.
TX Image **ES Image**	To change or select an image, click the **Browse** button to select a TX Image and/or ES Image. You can use .gif and .png images. The TX Image is displayed in the tx_status column. The ES Image is displayed on the Essences tab.
Save	Click to save changes.

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13.10 TX Statuses window

Option	Description
Title	Specifies the name for the status.
Asset job config **Status procedure** **Procedure content**	Either: ▪ Select an Asset job config. ▪ Select a status procedure. ▪ Select the **New procedure** option and define a procedure in the **Procedure content** field.
Description	Status description.
Order	Specifies in which order statuses are displayed in the tx_status column.
Possible values	Possible values for this status.
Save	Click to save changes.

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13.11 Asset jobs window

Example Asset jobs window.

- Select **Possible values** this job can have.
- Select the Default TX-status value.
- Click **Save** to save changes, **Cancel** to discard.
- In the left hand menu, click **TX Statuses**. The TX Statuses list opens.

Option	Description
Name	Specifies the name for the Job.
Job definition	Job configuration is described in the FTP-server User Manual.
Manual exec.	Select **Yes** if the job should be manually executable.
Description	A short Job description.
Possible values	Select the values this Job can have. These possible values are shown when editing the job status.
Default TX-status value	Select the default TX-status value**.** The default is used when a new asset is created.
Save	Click to save changes.

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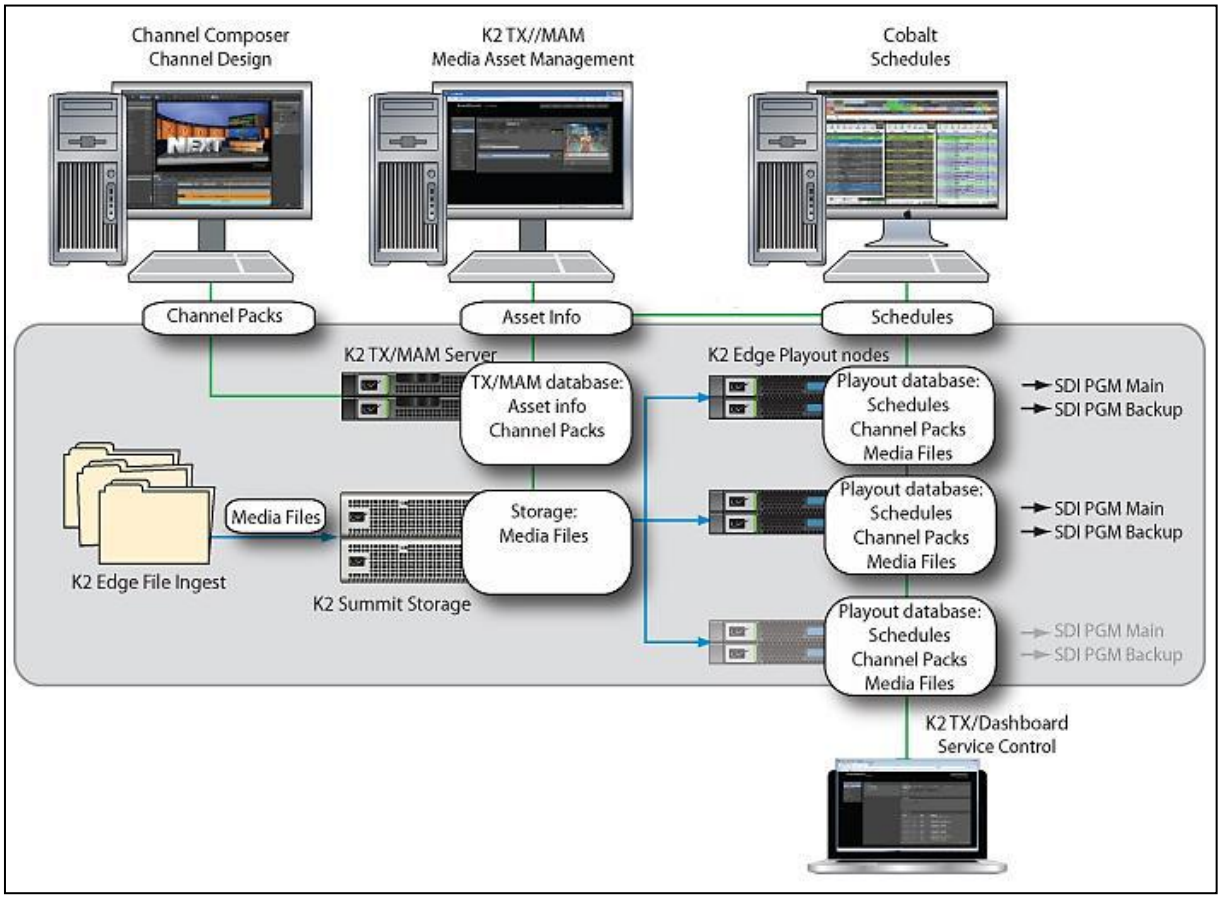
14. Appendix: the K2 Edge Workflow



The integrated K2 Edge playout systems and applications are:

- **K2 Edge server**: Linux-based, software-centric, automated, multichannel, integrated Playout Server. Brings all of the components of integrated playout together in a unified system: media playout, channel graphics, asset management and automation.
- **TX/MAM server**: contains the TX/MAM database.
- **Playout control**: manage and create on-air and off-air Playlists.
- **Channel Composer**: create the static and animated, 2D and 3D on-air look of Channels.
- **K2 TX/MAM**: Asset management; create and control Assets.
- **Storage**: media files storage.
- **K2 TX/MAM dashboard**: manage the K2 Edge services.

14.1 Assets

Asset info is created in TX/MAM, or imported. Asset info is stored in the TX/MAM database.
Asset files (Essences) are ingested and stored on the Storage server.
Files and Assets are linked based on the Asset's External reference, as shown below:

Example Asset			
Original Filename	External reference	AssetID	Filename in TX/MAM
abc123.mpg	abc123	153	a0000153.avf

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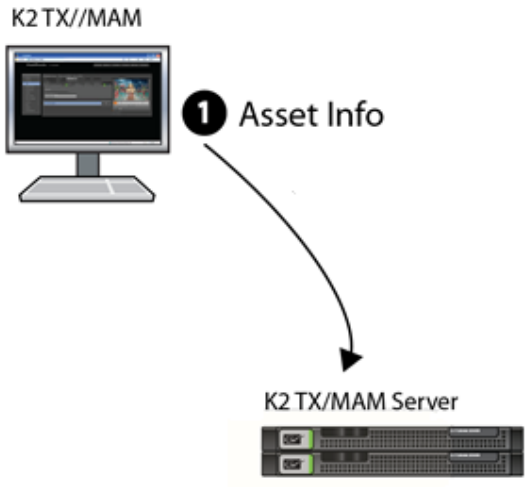
Media files are renamed to a0000<AssetID>.<file extension> (7 digits) during ingest.
The file extension for clip files is renamed to .avf.
Example: a0000153.avf

When a schedule is imported and Assets in the schedule do not yet exist, empty Assets are created.

When a Playlist is activated, the *playout_distri* process will check if Asset files are still in cache on the playout node. If not, files are fetched from the Storage-server and transferred to the playout directories on the K2 Edge.

14.1.1 Creating Assets via TX/MAM



1) Assets (Asset info) are created in TX/MAM. Until a file has been ingested, these Assets are called empty Assets.

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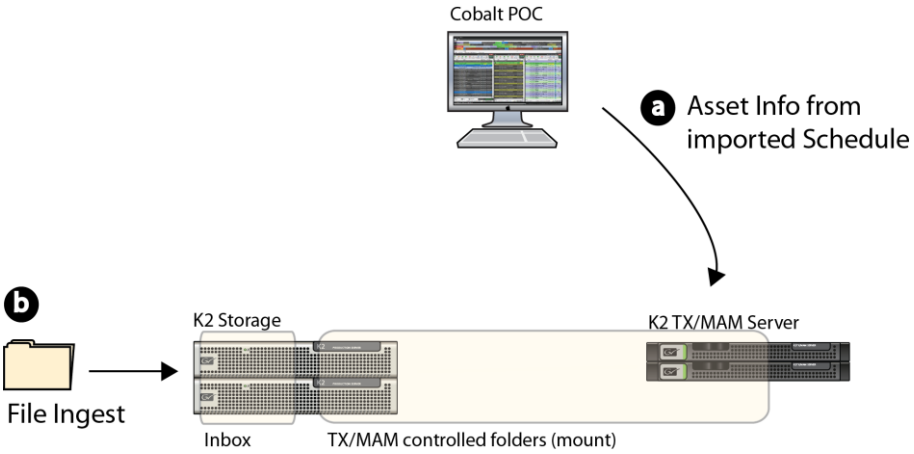
14.1.2 Creating Assets via Schedule Import, Ingest via the Inbox



a) Schedules are imported via POC. If Assets referenced in a schedule do not exist, an Asset with an External reference is created and applicable custom metadata info is added (empty Asset).

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Asset info can be created, but cannot be updated via schedule import. This should be done via the TX/MAM interface.

b) Files are ingested via the Inbox. Assets and files are linked based on External reference. If the Asset does not yet exist in the TX/MAM database, an Asset is created.

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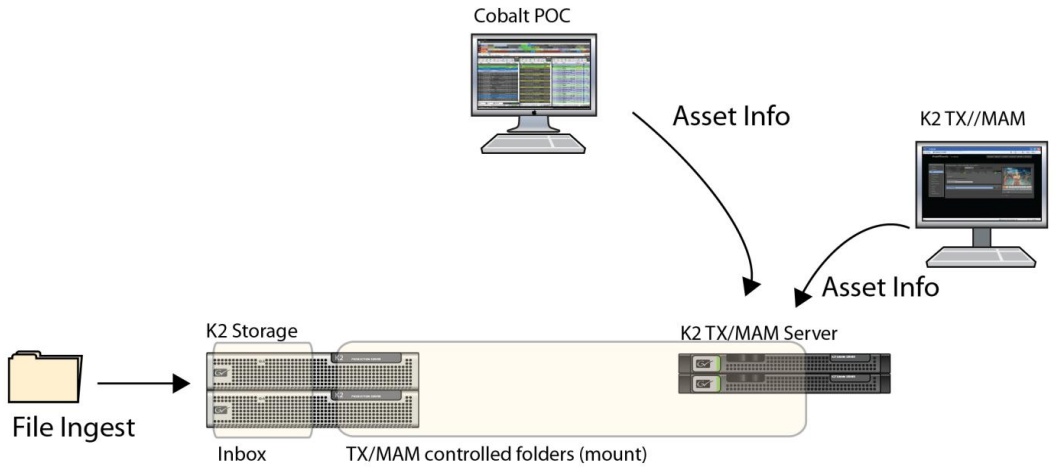
14.1.3 Ingest via the Inbox, creating Assets via TX/MAM or Schedule Import



This is a combination of the previous two workflows:

1) Files are ingested via the Inbox.

2) Asset info is imported via a schedule, or created or updated via TX/MAM.

14.2 Channel Design

A Channel Composer Project contains all the elements that together compose a Channel's on-air design: fixed Assets such as logos and straps, Objects, Templates, Applets and Formats. Projects are designed in Channel Composer and are then exported to the TX/MAM-database or to Storage as a Channel Pack.

To refer to dynamic content (Essences), Scene Parameters are defined. These parameters are dynamically updated with the Assets' filename when Events are scheduled. Dynamic content (Essences) is fetched from Storage for playout.

Example:

Scene Parameter	Event ID	Scene Parameter Value when scheduled
clip	12345	a0000548.avf
clip	12346	a0000978.avf
clip	12347	a0000564.avf

Before playout, the Channel Pack is transferred to the playout nodes. Dynamic content is fetched from Storage and is also transferred to the playout nodes.

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14.3 Schedules

Schedules can be imported or created in Playout Control (POC). Off-air Playlists are stored in the TX/MAM database or on the POC client PC. Activated Playlists are stored in the playout database on the playout server.

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